

16U 200 PCT FINAL.ST25
SEQUENCE LISTING

<110> OriGene Technologies, Inc

<120> TISSUE SPECIFIC GENES AND GENE CLUSTERS

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<151> 2002-04-16

<150> US 60/411,882
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<151> 2002-08-16

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<170> PatentIn version 3.1

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115 120 125	
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265 270

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Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Phe Gly Ser Ser His Ser
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Phe Leu Leu Ala Ala Met Gly Tyr Asp Arg Tyr Met Ala Ile Cys Asn
 115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu
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Met Ala Ala Ala Cys Ala Cys Gly Phe Thr Val Ser Leu Val Thr Thr
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Ser Leu Val Phe His Leu Pro Phe His Ser Ser Asn Gln Leu His His
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 180 185 190

Gly Phe Ser Gln Leu Val Ile Phe Met Leu Gly Val Phe Ala Leu Val
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Ile Pro Leu Leu Leu Ile Leu Val Ser Tyr Ile Arg Ile Ile Ser Ala
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Cys Ala Ser His Leu Ile Val Val Thr Val His Tyr Ser Cys Ala Ser
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Ile Pro Leu Leu Leu Ile Tyr Gly Phe Ile Leu Thr Gly Asn Leu Ile	35	40		45	
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Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr	50	55		60	
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Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr	65	70		75	80
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Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile	85	90		95	
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Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly	100	105		110	
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Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile	115	120		125	
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Ala Ile Cys Asn Pro Leu Arg Tyr Pro Thr Ile Met Ile Pro Lys Leu	130	135		140	
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Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val	145	150		155	160
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Leu Pro Glu Ile Ala Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn	165	170		175	
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Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala	195	200		205	
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Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile	210	215		220	
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Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe	260	265		270	
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Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe	275	280		285	
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Asn Pro Ile Ile Tyr Ser Leu Lys Asn Lys Asp Met Lys Glu Ala Ile	290	295		300	
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Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr
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Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr
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Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile
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Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly
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Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile
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Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val
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Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala
 180 185 190

Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala
 195 200 205

Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile
 210 215 220

Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala
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Phe Ser Thr Cys Ala Ala His Leu Ala Val Phe Leu Leu Phe Phe Gly
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Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe
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Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe
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145                      150                      155                      160
cac ttt ttc tgt gac att tcc cct gtc ata aaa ctg ggc tgc aca gac      528
His Phe Phe Cys Asp Ile Ser Pro Val Ile Lys Leu Gly Cys Thr Asp
165                      170                      175
acc aac ctg aag gag atg gtc atc ttt ttc ctc agc att ctg gta ttg      576
Thr Asn Leu Lys Glu Met Val Ile Phe Phe Leu Ser Ile Leu Val Leu
180                      185                      190
ctg gtt ccc ctt gtg ttg ata ttc atc tcc tac atc ttc ata gtt tcc      624
Leu Val Pro Leu Val Leu Ile Phe Ile Ser Tyr Ile Phe Ile Val Ser
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Thr Ile Leu Lys Ile Ser Ser Val Glu Gly Gln Cys Lys Ala Phe Ala
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225                      230                      235
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tcaaattggga acttgaattg ttctatttat atatgtagca ttctatttat aaatatattt 4562

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35 40 45

Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser
50 55 60

Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys
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85 90 95

Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys
100 105 110

Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg
115 120 125

Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile
130 135 140

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145 150 155 160

Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His
165 170 175

Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr
180 185 190

Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu
195 200 205

Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr
210 215 220

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Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr
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Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu
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Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln
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 Leu Cys Ile Tyr Leu Leu Thr Leu Ala Gly Asn Ile Leu Ile Ile Val
 35 40 45

ctg agg tgt ggt atg tca gca cca cag tgc cca tgc tgc tgc aca cct 194
 Leu Arg Cys Gly Met Ser Ala Pro Gln Cys Pro Cys Cys Cys Thr Pro
 50 55 60

tgc tcc aag ggt gtt cac ccg tct cat cag ctg tat gct tta ttc agc 242
 Cys Ser Lys Gly Val His Pro Ser His Gln Leu Tyr Ala Leu Phe Ser
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 Tyr Val Phe His Ser Leu Gly Met Thr Glu Cys Tyr Leu Leu Gly Val
 80 85 90 95

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 Met Ala Leu Asp Ser Tyr Leu Ile Ile Cys His Pro Leu His Tyr His
 100 105 110

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 Ala Leu Met Ser Arg Gln Val Gln Leu Arg Leu Ala Gly Ala Ser Trp
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 145 150 155

cca cta atg cgg ttg gca tgt gtg gac aca agc tgg cat gct agg gcc 530
 Pro Leu Met Arg Leu Ala Cys Val Asp Thr Ser Trp His Ala Arg Ala
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cat ggc aca gtg att ggt gtg gcc act ggt tgc aac ttt gtg ctc att 578
 His Gly Thr Val Ile Gly Val Ala Thr Gly Cys Asn Phe Val Leu Ile
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 195 200 205

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gtg gtg gca cta ttc tat gct tct gcc ttc aca gta tat gtg ggc tca 722
 Val Val Ala Leu Phe Tyr Ala Ser Ala Phe Thr Val Tyr Val Gly Ser
 225 230 235

cct ggg agt cga cct gag agc aca gac aag ctt gtt gcc ttg gtt tat 770
 Pro Gly Ser Arg Pro Glu Ser Thr Asp Lys Leu Val Ala Leu Val Tyr
 240 245 250 255

gcc ctt att acc cct ttc ctc aat cct atc atc tat agc ctt cgc aac 818
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Cys Ile Tyr Leu Leu Thr Leu Ala Gly Asn Ile Leu Ile Ile Val Leu
 35 40 45

Arg Cys Gly Met Ser Ala Pro Gln Cys Pro Cys Cys Cys Thr Pro Cys
 50 55 60

Ser Lys Gly Val His Pro Ser His Gln Leu Tyr Ala Leu Phe Ser Tyr
 65 70 75 80

Val Phe His Ser Leu Gly Met Thr Glu Cys Tyr Leu Leu Gly Val Met
 85 90 95

Ala Leu Asp Ser Tyr Leu Ile Ile Cys His Pro Leu His Tyr His Ala
 100 105 110

Leu Met Ser Arg Gln Val Gln Leu Arg Leu Ala Gly Ala Ser Trp Val
 115 120 125

Ala Gly Phe Ser Ala Ala Leu Val Pro Ala Thr Leu Thr Ala Thr Leu
 130 135 140

Pro Phe Cys Leu Lys Glu Val Ala His Tyr Phe Cys Asp Leu Ala Pro
 145 150 155 160

Leu Met Arg Leu Ala Cys Val Asp Thr Ser Trp His Ala Arg Ala His
 165 170 175

Gly Thr Val Ile Gly Val Ala Thr Gly Cys Asn Phe Val Leu Ile Leu
 180 185 190

Gly Leu Tyr Gly Gly Ile Leu Asn Ala Val Leu Lys Leu Pro Ser Ala
 195 200 205

Ala Ser Ser Ala Lys Ala Phe Ser Thr Cys Ser Ser His Val Thr Val
 210 215 220

Val Ala Leu Phe Tyr Ala Ser Ala Phe Thr Val Tyr Val Gly Ser Pro
 225 230 235 240

Gly Ser Arg Pro Glu Ser Thr Asp Lys Leu Val Ala Leu Val Tyr Ala
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cag	ctg	gcc	ctc	ttt	gta	ggt	ttt	ctt	ttt	ctg	tat	cta	gtc	att	ctt	96
Gln	Leu	Ala	Leu	Phe	Val	Val	Phe	Leu	Phe	Leu	Tyr	Leu	Val	Ile	Leu	
			20					25					30			

agt	ggc	aat	gtc	acc	att	atc	agt	gtc	atc	cac	ctg	gat	aaa	agc	ctc	144
Ser	Gly	Asn	Val	Thr	Ile	Ile	Ser	Val	Ile	His	Leu	Asp	Lys	Ser	Leu	
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cac	aca	cca	atg	tac	ttc	ttc	ctt	ggc	att	ctc	tca	aca	tct	gag	acc	192
His	Thr	Pro	Met	Tyr	Phe	Phe	Leu	Gly	Ile	Leu	Ser	Thr	Ser	Glu	Thr	
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ttc	tac	acc	ttt	gtc	att	cta	ccc	aag	atg	ctc	atc	aat	cta	ctt	tct	240
Phe	Tyr	Thr	Phe	Val	Ile	Leu	Pro	Lys	Met	Leu	Ile	Asn	Leu	Leu	Ser	
65					70					75					80	

gtg	gcc	agg	aca	atc	tcc	ttc	aac	tgt	tgt	gct	ctt	caa	atg	ttc	ttc	288
Val	Ala	Arg	Thr	Ile	Ser	Phe	Asn	Cys	Cys	Ala	Leu	Gln	Met	Phe	Phe	
				85					90					95		

ttc	ctt	ggg	ttt	gcc	att	acc	aac	tgc	ctg	cta	ttg	ggg	gtg	atg	ggg	336
Phe	Leu	Gly	Phe	Ala	Ile	Thr	Asn	Cys	Leu	Leu	Leu	Gly	Val	Met	Gly	

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acc caa atg ttc ttc ttc ctc ggt ttt gct gtc act aac tgt ctg ctt Thr Gln Met Phe Phe Phe Leu Gly Phe Ala Val Thr Asn Cys Leu Leu 340 345 350			1056
ctg gga gtg atg ggt tat gat cgt tat gct gcc atc tgt cag cct ttg Leu Gly Val Met Gly Tyr Asp Arg Tyr Ala Ala Ile Cys Gln Pro Leu 355 360 365			1104
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gtc ttt agc ctc cct ttc tgt ggc tcc aac aag gtc aac cac tac ttt Val Phe Ser Leu Pro Phe Cys Gly Ser Asn Lys Val Asn His Tyr Phe 405 410 415			1248
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 Cys Asp Ile Ser Pro Val Ile Arg Leu Ala Cys Ala Asp Ser Tyr Ile
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 Ser Glu Leu Val Ile Phe Ile Phe Gly Val Leu Val Leu Val Val Pro
 435 440 445
 ttg ata ttt atc tgc att tcc tat ggc ttc att gtc cgc acc atc ctg 1392
 Leu Ile Phe Ile Cys Ile Ser Tyr Gly Phe Ile Val Arg Thr Ile Leu
 450 455 460
 aag atc cca tca gct gaa ggc aaa caa aaa gcc ttc tcc acc tgt gct 1440
 Lys Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Ser Thr Cys Ala
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Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu
 35 40 45

His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr
 50 55 60

Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser
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Val Ala Arg Thr Ile Ser Phe Asn Cys Cys Ala Leu Gln Met Phe Phe
 85 90 95

Phe Leu Gly Phe Ala Ile Thr Asn Cys Leu Leu Leu Gly Val Met Gly
 100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys His Pro Leu His Tyr Pro Thr Leu
 115 120 125

Met Ser Trp Gln Val Cys Gly Lys Leu Ala Ala Ala Cys Ala Ile Gly
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Gly Phe Leu Ala Ser Leu Thr Val Val Asn Leu Val Phe Ser Leu Pro
 145 150 155 160

Phe Cys Ser Ala Asn Lys Val Asn His Tyr Phe Cys Asp Ile Ser Ala
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Val Ile Leu Leu Ala Cys Thr Asn Thr Asp Val Asn Glu Phe Val Ile
 180 185 190

Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys
 195 200 205

Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala
 210 215 220 160 200 PCT FINAL.ST25
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 225 230 235 240
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 260 265 270
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 275 280 285
 Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ile Leu
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 Ser Ile Ser Glu Ile Phe Tyr Thr Thr Val Ile Leu Pro Lys Met Leu
 305 310 315 320
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 325 330 335
 Thr Gln Met Phe Phe Phe Leu Gly Phe Ala Val Thr Asn Cys Leu Leu
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 355 360 365
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 370 375 380
 Thr Cys Ile Ile Ser Gly Phe Leu Ile Ser Leu Val Gly Thr Thr Phe
 385 390 395 400
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 Cys Asp Ile Ser Pro Val Ile Arg Leu Ala Cys Ala Asp Ser Tyr Ile
 420 425 430
 Ser Glu Leu Val Ile Phe Ile Phe Gly Val Leu Val Leu Val Val Pro
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 Leu Ile Phe Ile Cys Ile Ser Tyr Gly Phe Ile Val Arg Thr Ile Leu
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Pro Val Leu Thr Ser Trp Gln Ile Cys Ser Phe Leu Asp Phe Gln Leu
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ctt ttc tgt ggc cca aac aag atc aac cac tac ttc tgt gac atc tca 144
Leu Phe Cys Gly Pro Asn Lys Ile Asn His Tyr Phe Cys Asp Ile Ser
35 40 45

ctg ctt att cag ctt gcc tgt act gat acc tac atc agg gag cta gtc 192
Leu Leu Ile Gln Leu Ala Cys Thr Asp Thr Tyr Ile Arg Glu Leu Val
50 55 60

atc ttc att ggt gga att cta gca ctt acg gtt cct ctg att tta ttt 240
Ile Phe Ile Gly Gly Ile Leu Ala Leu Thr Val Pro Leu Ile Leu Phe
65 70 75 80

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 35 40 45

Leu Leu Ile Gln Leu Ala Cys Thr Asp Thr Tyr Ile Arg Glu Leu Val
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Phe Cys Leu Ala Tyr Thr Leu Ala Leu Leu Gly Asn Cys Thr Leu Leu
35 40 45

Leu Ile Ile Gln Ala Asp Ala Ala Leu His Glu Pro Met Tyr Leu Phe
50 55 60

Leu Ala Met Leu Ala Ala Ile Asp Leu Val Leu Ser Ser Ser Ala Leu
65 70 75 80

Pro Lys Met Leu Ala Ile Phe Trp Phe Arg Asp Arg Glu Ile Asn Phe
85 90 95

Phe Ala Cys Leu Ala Gln Met Phe Phe Leu His Ser Phe Ser Ile Met
100 105 110

Glu Ser Ala Val Leu Leu Ala Met Ala Phe Asp Arg Tyr Val Ala Ile
115 120 125

Cys Lys Pro Leu His Tyr Thr Lys Val Leu Thr Gly Ser Leu Ile Thr
130 135 140

Lys Ile Gly Met Ala Ala Val Ala Arg Ala Val Thr Leu Met Thr Pro
145 150 155 160

16U 200 PCT FINAL.ST25
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 165 170 175

Ala His Cys Tyr Cys Glu His Met Ala Val Val Arg Leu Ala Cys Gly
 180 185 190

Asp Thr Ser Phe Asn Asn Ile Tyr Gly Ile Ala Val Ala Met Phe Ile
 195 200 205

Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu
 210 215 220

Gln Ala Val Leu Leu Leu Ala Ser Gln Glu Ala His Tyr Lys Ala Phe
 225 230 235 240

Gly Thr Cys Val Ser His Ile Gly Ala Ile Leu Ala Phe Tyr Thr Thr
 245 250 255

Val Val Ile Ser Ser Val Met His Arg Val Ala Arg His Ala Ala Pro
 260 265 270

His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met
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gcc tac ggt gtg cgg gac tgg aca ctg ctg cag ctg gtg gtc tcg gtc 864

Ala Tyr Gly Val Arg Asp Trp Thr Leu Leu Gln Leu Val Val Ser Val
35 40 45

ccc ttc ttc ctc tgc ttt ttg tac tcc tgg tgg ctg gca gag tcg gca 912

Pro Phe Phe Leu Cys Phe Leu Tyr Ser Trp Trp Leu Ala Glu Ser Ala
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cga tgg ctc ctc acc aca ggc agg ctg gat tgg ggc ctg cag gag ctg 960

Arg Trp Leu Leu Thr Thr Gly Arg Leu Asp Trp Gly Leu Gln Glu Leu
65 70 75

16U 200 PCT FINAL.ST25

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acc cct gag gtc ttg ctt tca gcc atg cgg gag gag ctg agc atg ggc 1056
 Thr Pro Glu Val Leu Leu Ser Ala Met Arg Glu Glu Leu Ser Met Gly
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cag cct cct gcc agc ctg ggc acc ctg ctc cgc atg ccc gga ctg cgc 1104
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 Phe Phe Gly Leu Ala Leu Asp Leu Gln Ala Leu Gly Ser Asn Ile Phe
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gcc ctg ctg ctg ctg agc cac ctg ggc cgc cgc ccc acg ctg gcc gca 1296
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tcc ctg ttg ctg gca ggg ctc tgc att ctg gcc aac acg ctg gtg ccc 1344
 Ser Leu Leu Leu Ala Gly Leu Cys Ile Leu Ala Asn Thr Leu Val Pro
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 Phe Pro Thr Val Leu Arg Met Thr Ala Val Gly Leu Gly Gln Met Ala
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 Ala Arg Gly Gly Ala Ile Leu Gly Pro Leu Val Arg Leu Leu Gly Val
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 His Gly Pro Trp Leu Pro Leu Leu Val Tyr Gly Thr Val Pro Val Leu
 275 280 285

agt ggc ctg gcc gca ctg ctt ctg ccc gag acc cag agc ttg ccg ctg 1632
 Ser Gly Leu Ala Ala Leu Leu Leu Pro Glu Thr Gln Ser Leu Pro Leu
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 Pro Asp Thr Ile Gln Asp Val Gln Asn Gln Ala Val Lys Lys Ala Thr
 305 310 315

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 His Gly Thr Leu Gly Asn Ser Val Leu Lys Ser Thr Gln Phe
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35 40 45

Phe Leu Cys Phe Leu Tyr Ser Trp Trp Leu Ala Glu Ser Ala Arg Trp
50 55 60

Leu Leu Thr Thr Gly Arg Leu Asp Trp Gly Leu Gln Glu Leu Trp Arg
65 70 75 80

Val Ala Ala Ile Asn Gly Lys Gly Ala Val Gln Asp Thr Leu Thr Pro
85 90 95

Glu Val Leu Leu Ser Ala Met Arg Glu Glu Leu Ser Met Gly Gln Pro
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Pro Ala Ser Leu Gly Thr Leu Leu Arg Met Pro Gly Leu Arg Phe Arg
115 120 125

Thr Cys Ile Ser Thr Leu Cys Trp Phe Ala Phe Gly Phe Thr Phe Phe
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Gly Leu Ala Leu Asp Leu Gln Ala Leu Gly Ser Asn Ile Phe Leu Leu
145 150 155 160

Gln Met Phe Ile Gly Val Val Asp Ile Pro Ala Lys Met Gly Ala Leu
165 170 175

Leu Leu Leu Ser His Leu Gly Arg Arg Pro Thr Leu Ala Ala Ser Leu
180 185 190

Leu Leu Ala Gly Leu Cys Ile Leu Ala Asn Thr Leu Val Pro His Glu
195 200 205

Met Gly Ala Leu Arg Ser Ala Leu Ala Val Leu Gly Leu Gly Gly Val
210 215 220

Gly Ala Ala Phe Thr Cys Ile Thr Ile Tyr Ser Ser Glu Leu Phe Pro
225 230 235 240

16U 200 PCT FINAL.ST25

Thr Val Leu Arg Met Thr Ala Val Gly Leu Gly Gln Met Ala Ala Arg
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Gly Gly Ala Ile Leu Gly Pro Leu Val Arg Leu Leu Gly Val His Gly
 260 265 270

Pro Trp Leu Pro Leu Leu Val Tyr Gly Thr Val Pro Val Leu Ser Gly
 275 280 285

Leu Ala Ala Leu Leu Leu Pro Glu Thr Gln Ser Leu Pro Leu Pro Asp
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 Gly Ser Gln Asp Ala Leu Ala Pro Leu Pro Pro Pro Ala Pro Gln Asn
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 Pro Ser Thr His Ser Trp Asp Pro Leu Cys Gly Ser Leu Pro Trp Gly
 35 40 45

ctc agc tgt ctt ctg gct ctg cag cat gtc ttg gtc atg gct tct ctg 195
 Leu Ser Cys Leu Leu Ala Leu Gln His Val Leu Val Met Ala Ser Leu
 50 55 60

ctc tgt gtc tcc cac ctg ctc ctg ctt tgc agt ctc tcc cca gga gga 243
 Leu Cys Val Ser His Leu Leu Leu Cys Ser Leu Ser Pro Gly Gly
 65 70 75

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 Gly Met Ser Thr Ile Leu Gln Thr Trp Met Gly Ser Arg Leu Pro Leu
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 Val Gln Ala Pro Ser Leu Glu Phe Leu Ile Pro Ala Leu Val Leu Thr
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 Ser Gln Lys Leu Pro Arg Ala Ile Gln Thr Pro Gly Asn Ser Ser Leu
 130 135 140

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 Met Leu His Leu Cys Arg Gly Pro Ser Cys His Gly Leu Gly His Trp
 145 150 155

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 Asn Thr Ser Leu Gln Glu Val Ser Gly Ala Val Val Val Ser Gly Leu

160 165 160 200 PCT FINAL.ST25
170

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Leu Gln Gly Met Met Gly Leu Leu Gly Ser Pro Gly His Val Phe Pro
175 180 185 190

cac tgt ggg ccc ctg gtg ctg gct ccc agc ctg gtt gtg gca ggg ctc 627
His Cys Gly Pro Leu Val Leu Ala Pro Ser Leu Val Val Ala Gly Leu
195 200 205

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Ser Ala His Arg Glu Val Ala Gln Phe Cys Phe Thr His Trp Gly Leu
210 215 220

gcc ttg ctg tac gtg agt cct gag agg cgt ggg atg gtg ccc agt ggg 723
Ala Leu Leu Tyr Val Ser Pro Glu Arg Arg Gly Met Val Pro Ser Gly
225 230 235

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Gly Val Trp Gly Asp
240

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Thr His Ser Trp Asp Pro Leu Cys Gly Ser Leu Pro Trp Gly Leu Ser
 35 40 45

Cys Leu Leu Ala Leu Gln His Val Leu Val Met Ala Ser Leu Leu Cys
 50 55 60

Val Ser His Leu Leu Leu Leu Cys Ser Leu Ser Pro Gly Gly Leu Ser
 65 70 75 80

Tyr Ser Pro Ser Gln Leu Leu Ala Ser Ser Phe Phe Ser Cys Gly Met
 85 90 95

Ser Thr Ile Leu Gln Thr Trp Met Gly Ser Arg Leu Pro Leu Val Gln
 100 105 110

Ala Pro Ser Leu Glu Phe Leu Ile Pro Ala Leu Val Leu Thr Ser Gln
 115 120 125

Lys Leu Pro Arg Ala Ile Gln Thr Pro Gly Asn Ser Ser Leu Met Leu
 130 135 140

His Leu Cys Arg Gly Pro Ser Cys His Gly Leu Gly His Trp Asn Thr
 145 150 155 160

Ser Leu Gln Glu Val Ser Gly Ala Val Val Val Ser Gly Leu Leu Gln
 165 170 175

Gly Met Met Gly Leu Leu Gly Ser Pro Gly His Val Phe Pro His Cys
 180 185 190

Gly Pro Leu Val Leu Ala Pro Ser Leu Val Val Ala Gly Leu Ser Ala
 195 200 205

His Arg Glu Val Ala Gln Phe Cys Phe Thr His Trp Gly Leu Ala Leu
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gct gaa ctt cca gat atc tct cac ctt ata caa gcc atc ttc caa gga Ala Glu Leu Pro Asp Ile Ser His Leu Ile Gln Ala Ile Phe Gln Gly 200 205 210	740
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 Pro Tyr Lys Val Phe Leu Ser Phe Pro Leu Ala Thr Ile Val Ile Asp
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 Val Gly Leu Val Val Ile Pro Leu Val Lys Ser Pro Asn Val His Tyr
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Leu Leu Phe Tyr Ile Pro Leu Ile His Phe Lys Ile Arg Leu Ala Trp
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160 200 PCT FINAL.ST25
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 Val Thr Met Leu Cys Ala Pro Leu Gly Ser Val Val Ser Asn His Leu
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 Arg Pro Ile Thr Leu Lys Glu Asp His Thr Thr Pro Glu Gln Asn His
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Cys Pro Ala Leu Ser Arg Leu Val Pro Arg Gly Phe Gly Thr Glu Met
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Trp Thr Leu Phe Ala Leu Ser Gly Pro Leu Phe Leu Phe Gln Val Leu
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Cys Gly Val Ser Val Gly Val Gly Leu Ser Ser Ala Cys Asp Thr Leu
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Met Ser Gln Ser Phe Gly Ser Pro Asn Lys Lys His Val Gly Val Ile
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Leu Gln Arg Gly Ala Leu Val Leu Leu Leu Cys Cys Leu Pro Cys Trp
115 120 125

gcg ctc ttc ctc aac acc cag cac atc ctg ctg ctc ttc cgg cag gac 491
Ala Leu Phe Leu Asn Thr Gln His Ile Leu Leu Leu Phe Arg Gln Asp
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Pro Asp Val Ser Arg Leu Thr Gln Asp Tyr Val Met Ile Phe Ile Pro
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Asn Gln Lys Ile Thr Trp Pro Gln Val Leu Ser Gly Val Val Gly Asn
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Cys Val Asn Gly Val Ala Asn Tyr Ala Leu Val Ser Val Leu Asn Leu
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Phe Ser Leu Ala Val Pro Ser Met Leu Met Ile Cys Val Glu Trp Trp
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Ala Tyr Glu Ile Gly Ser Phe Leu Met Gly Leu Leu Ser Val Val Asp
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Leu Ser Ala Gln Ala Val Ile Tyr Glu Val Ala Thr Val Thr Tyr Met
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Ile Leu Lys Asn Gln Leu Gly His Ile Phe Thr Asn Asp Glu Asp Val		
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Gln Lys Ile Thr Trp Pro Gln Val Leu Ser Gly Val Val Gly Asn Cys
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Val Arg Gly Ser Ala Tyr Ala Asn Ile Ile Ser Gln Phe Ala Gln Thr
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Val Phe Leu Leu Leu Tyr Ile Val Leu Lys Lys Leu His Leu Glu Thr
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Trp Ala Gly Trp Ser Ser Gln Cys Leu Gln Asp Trp Gly Pro Phe Phe
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Leu Lys Asn Gln Leu Gly His Ile Phe Thr Asn Asp Glu Asp Val Ile
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Gly Leu Trp Leu Gly Met Leu Ala Cys Val Phe Leu Ala Thr Ala Ala
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Ser Arg Phe Phe Cys Leu Leu Leu Gly Pro Cys Met Leu Gly Lys Gly
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315 320 325

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330 335 340

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345 350 355

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His Ser Pro Glu Leu Gln Arg Thr Gly Arg Leu Phe Gly Gly Leu Ile
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Arg Asp Tyr Ser Leu Asp Tyr Leu Pro Phe Arg Leu Trp Val Gly Ile
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Thr Arg Pro Lys Asp Arg Asp Ile Val Ser Met Asp Leu Gly Leu
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16U 200 PCT FINAL.ST25

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Phe	Cys	Val	Ala	Val	Leu	Met	Leu	Leu	Thr	Ser	Ala	Leu	Gly	Leu	Pro	
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Arg	Arg	Glu	Ser	Arg	Ala	Cys	Ala	Pro	Gly	Glu	Arg	Pro	Asn	Phe	Leu	
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Gly	Ile	Arg		Gln	Arg	Leu	Thr	Gly	Leu	Val	Val	Phe	Ile	Leu	Thr	
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Gly	Ala	Ser	Ile	Phe	Leu	Ala	Pro	Val	Leu	Lys	Phe	Ile	Pro	Met	Pro	
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Val	Leu	Tyr	Gly	Ile	Phe	Leu	Tyr	Met	Gly	Val	Ala	Ala	Leu	Ser	Ser	
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Gln	Pro	Asp	Leu	Leu	Leu	Leu	Arg	His	Val	Pro	Leu	Thr	Arg	Val	His	
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ctc	ttc	aca	gcc	atc	cag	ctt	gcc	tgt	ctg	ggg	ctg	ctt	tgg	ata	atc	2741
Leu	Phe	Thr	Ala	Ile	Gln	Leu	Ala	Cys	Leu	Gly	Leu	Leu	Trp	Ile	Ile	
			890					895					900			
aag	tct	acc	cct	gca	gcc	atc	atc	ttc	ccc	ctc	atg	ttg	ctg	ggc	ctt	2789
Lys	Ser	Thr	Pro	Ala	Ala	Ile	Ile	Phe	Pro	Leu	Met	Leu	Leu	Gly	Leu	
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16U 200 PCT FINAL.ST25

gtg ggg gtc cga aag gcc ctg gag agg gtc ttc tca cca cag gaa ctc 2837
Val Gly Val Arg Lys Ala Leu Glu Arg Val Phe Ser Pro Gln Glu Leu
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ctc tgg ctg gat gag ctg atg cca gag gag gag aga agc atc cct gag 2885
Leu Trp Leu Asp Glu Leu Met Pro Glu Glu Glu Arg Ser Ile Pro Glu
935 940 945 950

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Lys Gly Leu Glu Pro Glu His Ser Phe Ser Gly Ser Asp Ser Glu Asp
955 960 965

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Ser Glu Leu Met Tyr Gln Pro Lys Ala Pro Glu Ile Asn Ile Ser Val
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35 40 45

Gly Val Pro Lys Asp Pro Leu Leu Phe Ile Gln Leu Asn Glu Leu Leu
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Cys Pro Ala Gln Ser Leu Leu Glu Leu Val Glu Gln Val Thr Arg Val
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Glu Ser Leu Ser Pro Glu Leu Arg Gly Gln Leu Gln Ala Leu Leu Leu
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Gln Arg Pro Gln His Tyr Asn Gln Thr Thr Gly Thr Arg Pro Cys Trp
180 185 190

Gly Ser Thr His Pro Arg Lys Ala Ser Asp Asn Glu Glu Ala Pro Leu

195 200 16U 200 PCT FINAL.ST25
205

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Glu Ala Gly Thr Val Leu Ala Gly Glu Leu Gly Phe Leu Ala Gln Pro
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260 265 270

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Val Leu Pro Pro Gly Arg Trp Asp Pro Thr Ala Arg Ile Pro Pro Pro
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Lys Cys Leu Pro Ser Gln His Lys Arg Leu Pro Ser Gln Gln Arg Glu
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Arg His Gly Pro His Ala His Ser Pro Glu Leu Gln Arg Thr Gly Arg
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Pro Ser Asp Phe Leu Asp Ala Leu His Leu Gln Cys Phe Ser Ala Val
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Leu Tyr Ile Tyr Leu Ala Thr Val Thr Asn Ala Ile Thr Phe Gly Gly
420 425 430

Leu Leu Gly Asp Ala Thr Asp Gly Ala Gln Gly Val Leu Glu Ser Phe
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Leu Gly Thr Ala Val Ala Gly Ala Ala Phe Cys Leu Met Ala Gly Gln
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 Ser Ser Ala Tyr Gly Cys Leu Cys Gln Tyr Pro Gly Pro Gly Gly Asn
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 Cys Thr Arg Gln Gly Gly His Pro Arg Gly Pro Gly Cys His Thr Val
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 Pro Asp Ile Ala Phe Phe Ser Leu Leu Leu Phe Leu Thr Ser Phe Phe
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 675 680 685
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 Thr Ala Val Ile Leu Asn Arg Met Glu Tyr Arg Leu Gln Lys Gly Ala
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 820 825 830

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Lys Phe Ile Pro Met Pro Val Leu Tyr Gly Ile Phe Leu Tyr Met Gly
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850 855 860

Leu Met Pro Ala Lys His Gln Pro Asp Leu Leu Leu Arg His Val
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915 920 925

Phe Ser Pro Gln Glu Leu Leu Trp Leu Asp Glu Leu Met Pro Glu Glu
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Met Ser Arg Ser Arg Leu Phe Ser Val Thr Ser Ala Ile Ser Thr Ile
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Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp Leu Pro
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Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln His Pro Asn
35 40 45

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Gly Trp Tyr Ile Trp Ile Leu Leu Leu Leu Val Leu Val Ala Ala Leu
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ctc tgt gga gct gtg gtc ctc tgc ctc cag tgc tgg ctg agg aga ccc 299
Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys Trp Leu Arg Arg Pro
65 70 75 80

cga att gat tct cac agg cgc acc atg gca gtt ttt gct gtt gga gac 347
Arg Ile Asp Ser His Arg Arg Thr Met Ala Val Phe Ala Val Gly Asp
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16U 200 PCT FINAL.ST25
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 Thr Thr
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Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys Trp Leu Arg Arg Pro
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Arg Ile Asp Ser His Arg Arg Thr Met Ala Val Phe Ala Val Gly Asp
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Leu Asp Ser Ile Tyr Gly Thr Glu Ala Ala Val Ser Pro Thr Val Gly
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Ser Cys Gln Leu Cys Lys Glu Ser Glu Glu Arg Val Pro Asp Ser Glu
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Gln Thr Pro Gly Gly Pro Ser Phe Val Phe Thr Gly Ile Asn Gln Pro
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Ser Ser Pro Pro Gln Tyr Tyr Thr Ile Tyr Pro Gln Asp Asn Ser Ala
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Phe Val Val Asp Glu Gly Cys Leu Ser Phe Thr Asp Gly Gly Asn His
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Pro Ser Phe Leu Val Arg Glu Gln Asp Trp Asp Gln His Leu Asp Lys
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His Ile Ala Ala Leu Tyr Asp Asn Leu Glu Ala Ala Leu Val Leu Met
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680 685 690

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Tyr Phe Gly Glu His Pro Leu Ser Phe Ala Ala Cys Val Asn Ser Glu
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Asp Ser Leu Gly Asn Thr Val Leu His Ile Leu Ile Leu Gln Pro Asn
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Pro Leu Arg Val Leu Arg Tyr Val Glu Val Phe Lys Asn Ser Asp Lys
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Ser Phe Val Leu Ser Ser Gly Gly Leu Leu Gly Phe Val Ile Leu Leu
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Arg Asn Gln Val Thr Leu Ile Gly Phe Thr Leu Met Phe Trp Cys Glu
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Phe Thr Ala Ser Phe Leu Leu Phe Leu Asn Ala Ile Ser Gly Leu His
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atggaggttt ctgcacgctc agca 24

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aagcaatttg ttaaaaactg gcattacttt actcttatgc tttctgtgtc 50

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<213> Homo sapiens

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16U 200 PCT FINAL.ST25

<400> 142
gggccacttc cacagacagg aagc 24

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<400> 143
tggcctgaga ggtagattcc acatagtagt cgt 33

<210> 144
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<212> DNA
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<400> 145
ctcctttctg gtcagagaac aagactggga c 31

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gtgatgtctc gagaatgagt gcggttg 27

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cagcgaggca gaaaaatgtc ccacaagttg agccctcccc actcccagtg 50

<210> 148
<211> 50
<212> DNA
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<400> 148
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gcagatgacc cgacctgact gttcttc 27

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<400> 150
tggctgtgca gctagctcag gtaccag 27

<210> 151
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16U 200 PCT FINAL.ST25

<212> DNA

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gccagagagt ttaaatgaag ccctactttg gggcaggagc gggaggaaac

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<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (1)..(945)

<223>

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 Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly
 1 5 10 15

tta act gaa caa gca gag ctt cag ctg ccc ctc ttc tgc ctc ttc tta 96
 Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu
 20 25 30

gga att tac aca gtt act gtg gtg gga aac ctc agc atg atc tca att 144
 Gly Ile Tyr Thr Val Thr Val Gly Asn Leu Ser Met Ile Ser Ile
 35 40 45

att agg ctg aat cgt caa ctt cat acc ccc atg tac tat ttc ctg agt 192
 Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
 50 55 60

agt ttg tct ttt tta gat ttc tgc tat tct tct gtc att acc cct aaa 240
 Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys
 65 70 75 80

atg cta tca ggg ttt tta tgc aga gat aga tcc atc tcc tat tct gga 288
 Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly
 85 90 95

tgc atg att cag ctg ttt ttt ttc tgt gtt tgt gtt att tct gaa tgc 336
 Cys Met Ile Gln Leu Phe Phe Phe Cys Val Cys Val Ile Ser Glu Cys
 100 105 110

tac atg ctg gca gcc atg gcc tgc gat cgc tac gtg gcc atc tgc agc 384
 Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser
 115 120 125

cca ctg ctc tac agg gtc atc atg tcc cct agg gtc tgt tct ctg ctg 432
 Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu
 130 135 140

gtg gct gct gtc ttc tca gta ggt ttc act gat gct gtg atc cat gga 480
 Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly
 145 150 155 160

ggg tgt ata ctc agg ttg tct ttc tgt gga tca aac atc att aaa cat 528
 Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His
 165 170 175

tat ttc tgt gac att gtc cct ctt att aaa ctc tcc tgc tcc agc act 576
 Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr
 180 185 190

tat att gat gag ctt ttg att ttt gtc att ggt gga ttt aac atg gtg 624
 Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val
 195 200 205

gcc aca agc cta aca atc att att tca tat gct ttt atc ctc acc agc 672
 Ala Thr Ser Leu Thr Ile Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser
 210 215 220

atc ctg cgc atc cac tct aaa aag ggc agg tgc aaa gcg ttt agc acc 720
 Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr
 225 230 235 240

tgt agc tcc cac ctg aca gct gtt ctt atg ttt tat ggg tct ctg atg 768

16U 200 PCT FINAL.ST25
 Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met
 245 250 255
 tcc atg tat ctc aaa cct gct tct agc agt tca ctc acc cag gag aaa 816
 Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Ser Leu Thr Gln Glu Lys
 260 265 270
 gta tcc tca gta ttt tat acc act gtg att ctc atg ttg aat ccc ttg 864
 Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu
 275 280 285
 ata tat agt ctg agg aac aat gaa gta aga aat gct ctg atg aaa ctt 912
 Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu
 290 295 300
 tta aga aga aaa ata tct tta tct cca gga taa 945
 Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly
 305 310

<210> 153
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 153

Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly
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 Gly Ile Tyr Thr Val Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile
 35 40 45
 Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
 50 55 60
 Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys
 65 70 75 80
 Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly
 85 90 95
 Cys Met Ile Gln Leu Phe Phe Phe Cys Val Cys Val Ile Ser Glu Cys
 100 105 110
 Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser
 115 120 125
 Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu
 130 135 140
 Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly
 145 150 155 160
 Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His
 165 170 175
 Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr
 180 185 190
 Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val
 195 200 205

16U 200 PCT FINAL.ST25
 Ala Thr Ser Leu Thr Ile Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser
 210 215 220

Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met
 245 250 255

Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Ser Leu Thr Gln Glu Lys
 260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu
 290 295 300

Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly
 305 310

<210> 154
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 <213> Homo sapiens

<400> 154
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<210> 155
 <211> 36
 <212> DNA
 <213> Homo sapiens

<400> 155
 tcacagagc atttcttact tcattgttcc tcagac 36

<210> 156
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<400> 156
 caggagaatt aaatataaga gtggtcagtg tgtttgtaac actcaggaca 50

<210> 157
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 <212> DNA
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<400> 157
 aaaacatgct ttaaaaaacc catgatatta aagacaaaaa actgagcata 50

<210> 158
 <211> 50
 <212> DNA
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<400> 158
 atgaacagct tattaatatag ccaggtagct gggcagaatg agaaaatgca 50

<210> 159
 <211> 50
 <212> DNA
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16U 200 PCT FINAL.ST25

gcccacact aaataaaggg tcagctttct cagagataag gccatgattg 50

<210> 160
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<400> 160
 tgctataaaa tgtttttaa aagtgtgaag ttggcctatc accaagtaag 50

<210> 161
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 <212> DNA
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<400> 161
 taaatattgt atttatatag tccttcagga ggactgaggc atcctccagt 50

<210> 162
 <211> 957
 <212> DNA
 <213> Homo sapiens

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 <222> (1)..(957)
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<400> 162
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 Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly
 1 5 10 15

ctc tct cag gtt tgg gag ctt cgg ttt gtt ttc ttc act gtt ttc tct 96
 Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser
 20 25 30

gct gtg tat ttt atg act gta gtg gga aac ctt ctt att gtg gtc ata 144
 Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile
 35 40 45

gtg acc tcc gac cca cac ctg cac aca acc atg tat ttt ctc ttg ggc 192
 Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly
 50 55 60

aat ctt tct ttc ctg gac ttt tgc tac tct tcc atc aca gca cct agg 240
 Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg
 65 70 75 80

atg ctg gtt gac ttg ctc tca ggc aac cct acc att tcc ttt ggt gga 288
 Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly
 85 90 95

tgc ctg act caa ctc ttc ttc ttc cac ttc att gga ggc atc aag atc 336
 Cys Leu Thr Gln Leu Phe Phe Phe His Phe Ile Gly Gly Ile Lys Ile
 100 105 110

ttc ctg ctg act gtc atg gcg tat gac cgc tac att gcc att tcc cag 384
 Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln
 115 120 125

ccc ctg cac tac acg ctc att atg aat cag act gtc tgt gca ctc ctt 432
 Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu
 130 135 140

atg gca gcc tcc tgg gtg ggg ggc ttc atc cac tcc ata gta cag att 480
 Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile
 145 150 155 160

gca ttg act atc cag ctg cca ttc tgt ggg cct gac aag ctg gac aac 528
 Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn
 165 170 175

ttt tat tgt gat gtg cct cag ctg atc aaa ttg gcc tgc aca gat acc 576
 Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr
 180 185 190

16U 200 PCT FINAL.ST25

ttt gtc tta gag ctt tta atg gtg tct aac aat ggc ctg gtg acc ctg 624
 Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu
 195 200 205
 atg tgt ttt ctg gtg ctt ctg gga tgc tac aca gca ctg cta gtc atg 672
 Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met
 210 215 220
 ctc cga agc cac tca cgg gag ggc cgc agc aag gcc ctg tct acc tgt 720
 Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys
 225 230 235 240
 gcc tct cac att gct gtg gtg acc tta atc ttt gtg cct tgc atc tac 768
 Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr
 245 250 255
 gtc tat aca agg cct ttt cgg aca ttc ccc atg gac aag gcc gtc tct 816
 Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser
 260 265 270
 gtg cta tac aca att gtc acc ccc atg ctg aat cct gcc atc tat acc 864
 Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr
 275 280 285
 ctg aga aac aag gaa gtg atc atg gcc atg aag aag ctg tgg agg agg 912
 Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg
 290 295 300
 aaa aag gac cct att ggt ccc ctg gag cac aga ccc tta cat tag 957
 Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His
 305 310 315

<210> 163
 <211> 318
 <212> PRT
 <213> Homo sapiens

<400> 163

Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly
 1 5 10 15
 Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser
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 Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile
 35 40 45
 Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly
 50 55 60
 Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg
 65 70 75 80
 Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly
 85 90 95
 Cys Leu Thr Gln Leu Phe Phe Phe His Phe Ile Gly Gly Ile Lys Ile
 100 105 110
 Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln
 115 120 125
 Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu
 130 135 140
 Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile
 145 150 155 160

16U 200 PCT FINAL.ST25

Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn
 165 170 175

Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr
 180 185 190

Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu
 195 200 205

Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met
 210 215 220

Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys
 225 230 235 240

Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr
 245 250 255

Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser
 260 265 270

Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr
 275 280 285

Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg
 290 295 300

Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His
 305 310 315

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 <212> DNA
 <213> Homo sapiens

<400> 164
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<210> 165
 <211> 29
 <212> DNA
 <213> Homo sapiens

<400> 165
 ctaatgtaag ggtctgtgct ccaggggac 29

<210> 166
 <211> 50
 <212> DNA
 <213> Homo sapiens

<400> 166
 cactaccctt ttaaagtgcg gggggcagtg atttcttttc ttttcttttt 50

<210> 167
 <211> 972
 <212> DNA
 <213> Homo sapiens

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 <222> (1)..(972)
 <223>

160 200 PCT FINAL.ST25

<400> 167
atg aac cct gaa aac tgg act cag gta aca agc ttt gtc ctt ctg ggt 48
Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly
1 5 10 15

ttc ccc agt agc cac ctc ata cag ttc ctg gtg ttc ctg ggg tta atg 96
Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met
20 25 30

gtg acc tac att gta aca gcc aca ggc aag ctg cta att att gtg ctc 144
Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Ile Ile Val Leu
35 40 45

agc tgg ata gac caa cgc ctg cac ata cag atg tac ttc ttc ctg cgg 192
Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg
50 55 60

aat ttc tcc ttc ctg gag ctg ttg ctg gta act gtt gtg gtt ccc aag 240
Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys
65 70 75 80

atg ctt gtc gtc atc ctc acg ggg gat cac acc atc tca ttt gtc agc 288
Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser
85 90 95

tgc atc atc cag tcc tac ctc tac ttc ttt cta ggc acc act gac ttc 336
Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe
100 105 110

ttc ctc ttg gcc gtc atg tct ctg gat cgt tac ctg gca atc tgc cga 384
Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg
115 120 125

cca ctc cgc tat gag acc ctg atg aat ggc cat gtc tgt tcc caa cta 432
Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu
130 135 140

gtg ctg gcc tcc tgg cta gct gga ttc ctc tgg gtc ctt tgc ccc act 480
Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr
145 150 155 160

gtc ctc atg gcc agc ctg cct ttc tgt ggc ccc aat ggt att gac cac 528
Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His
165 170 175

ttc ttt cgt gac agt tgg ccc ttg ctc agg ctt tct tgt ggg gac acc 576
Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr
180 185 190

cac ctg ctg aaa ctg gtg gct ttc atg ctc tct acg ttg gtg tta ctg 624
His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu
195 200 205

ggc tca ctg gct ctg acc tca gtt tcc tat gcc tgc att ctt gcc act 672
Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr
210 215 220

gtt ctc agg gcc cct aca gct gct gag cga agg aaa gcg ttt tcc act 720
Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr
225 230 235 240

tgc gcc tcg cat ctt aca gtg gtg gtc atc atc tat ggc agt tcc atc 768
Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile
245 250 255

ttt ctc tac att cgt atg tca gag gct cag tcc aaa ctg ctc aac aaa 816
Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys
260 265 270

ggt gcc tcc gtc ctg agc tgc atc atc aca ccc ctc ttg aac cca ttc 864
Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe
275 280 285

atc ttc act ctc cgc aat gac aag gtg cag caa gca ctg aga gaa gcc 912
Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala
290 295 300

ttg ggg tgg ccc agg ctc act gct gtg atg aaa ctg agg gtc aca agt 960
Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser

305 310 16U 200 PCT FINAL.ST25
315 320

caa agg aaa tga
Gln Arg Lys

972

<210> 168
<211> 323
<212> PRT
<213> Homo sapiens

<400> 168

Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly
1 5 10 15

Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met
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Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu
35 40 45

Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg
50 55 60

Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys
65 70 75 80

Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser
85 90 95

Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe
100 105 110

Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg
115 120 125

Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu
130 135 140

Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr
145 150 155 160

Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His
165 170 175

Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr
180 185 190

His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu
195 200 205

Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr
210 215 220

Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Thr Val Val Val Ile Ile Tyr Gly Ser Ser Ile
245 250 255

Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys

16U 200 PCT FINAL.ST25
270

260

265

Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe
275 280 285

Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala
290 295 300

Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser
305 310 315 320

Gln Arg Lys

<210> 169
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<212> DNA
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25

<210> 170
<211> 30
<212> DNA
<213> Homo sapiens

<400> 170
ctgagaacag tggcaagaat gcaggcatag

30

<210> 171
<211> 450
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(450)
<223>

<400> 171
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Met Asp Leu Pro His Val Pro Ala Leu Asp Ala Pro Leu Phe Gly Val
1 5 10 15

48

ttc ctg gtg gtt tat gtg ctt act gtg ctg ggg aac ctc ctc atc ctg
Phe Leu Val Val Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu
20 25 30

96

ctg gtg atc agg gtg tac tct cac ctc cac acc ccc aag tac tac ttc
Leu Val Ile Arg Val Tyr Ser His Leu His Thr Pro Lys Tyr Tyr Phe
35 40 45

144

ctc acc aat ctg tcc ttc att gac ttg tgg ttc ttc act gtc atg gtg
Leu Thr Asn Leu Ser Phe Ile Asp Leu Trp Phe Phe Thr Val Met Val
50 55 60

192

ccc aaa atg ccg agg acc ttg ttg tcc ctg tgt ggc aag gct gtg tcc
Pro Lys Met Pro Arg Thr Leu Leu Ser Leu Cys Gly Lys Ala Val Ser
65 70 75 80

240

ttc cac agt tgt atg acc caa ctc tat ttc ttc tac ttc ctg ggg agc
Phe His Ser Cys Met Thr Gln Leu Tyr Phe Phe Tyr Phe Leu Gly Ser
85 90 95

288

acc gag tgt ttg ctc tac acg gtc atg tcc tat gat cgc tat aga gga
Thr Glu Cys Leu Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Arg Gly
100 105 110

336

aat act cag cac ttc cca ggt agt gaa aac act ccc cac gaa gtg agc
Asn Thr Gln His Phe Pro Gly Ser Glu Asn Thr Pro His Glu Val Ser
115 120 125

384

16U 200 PCT FINAL.ST25

caa atg cta gtg gcc cgg ggg gca cac ggg ctc cca ctc atc atc ctg 432
 Gln Met Leu Val Ala Arg Gly Ala His Gly Leu Pro Leu Ile Ile Leu
 130 135 140

gca gat ctg agt ggg taa 450
 Ala Asp Leu Ser Gly
 145

<210> 172
 <211> 149
 <212> PRT
 <213> Homo sapiens

<400> 172

Met Asp Leu Pro His Val Pro Ala Leu Asp Ala Pro Leu Phe Gly Val
 1 5 10 15

Phe Leu Val Val Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu
 20 25 30

Leu Val Ile Arg Val Tyr Ser His Leu His Thr Pro Lys Tyr Tyr Phe
 35 40 45

Leu Thr Asn Leu Ser Phe Ile Asp Leu Trp Phe Phe Thr Val Met Val
 50 55 60

Pro Lys Met Pro Arg Thr Leu Leu Ser Leu Cys Gly Lys Ala Val Ser
 65 70 75 80

Phe His Ser Cys Met Thr Gln Leu Tyr Phe Phe Tyr Phe Leu Gly Ser
 85 90 95

Thr Glu Cys Leu Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Arg Gly
 100 105 110

Asn Thr Gln His Phe Pro Gly Ser Glu Asn Thr Pro His Glu Val Ser
 115 120 125

Gln Met Leu Val Ala Arg Gly Ala His Gly Leu Pro Leu Ile Ile Leu
 130 135 140

Ala Asp Leu Ser Gly
 145

<210> 173
 <211> 23
 <212> DNA
 <213> Homo sapiens

<400> 173
 agctctggac gcccactct ttg 23

<210> 174
 <211> 27
 <212> DNA
 <213> Homo sapiens

<400> 174
 acccactcag atctgccagg atgatga 27

<210> 175
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 <213> Homo sapiens

16U 200 PCT FINAL.ST25

<220>

<221> CDS

<222> (1)..(936)

<223>

<400> 175

atg tcc aac gcc agc ctc gtg aca gca ttc atc ctc aca ggc ctt ccc 48
 Met Ser Asn Ala Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro 15
 1 5 10

cat gcc cca ggg ctg gac gcc ctc ctc ttt gga atc ttc ctg gtg gtt 96
 His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val 30
 20 25

tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg 144
 Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg 45
 35 40

gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg 192
 Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu 60
 50 55

tcc ttc att gac atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg 240
 Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu 80
 65 70 75

atg acc ttg gtg tcc cca agc ggc agg gct atc tcc ttc cac agc tgc 288
 Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys 95
 85 90

gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc 336
 Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe 110
 100 105

ctc tac aca gtc atg tcc tat gat cgc tac ttg gcc atc agt tac ccg 384
 Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro 125
 115 120

ctc agg tac acc agc atg atg agt ggg agc agg tgt gcc ctc ctg gcc 432
 Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala 140
 130 135

acc ggc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata 480
 Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile 160
 145 150 155

ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tac 528
 Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr 175
 165 170

ttc tgt gac gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca 576
 Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser 190
 180 185

gcc aac gtg atg gtc atc ttt gtg gac att ggg ata gtg gcc tca ggc 624
 Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly 205
 195 200

tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc 672
 Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile 220
 210 215

ctg cgg atc cgc acc tca gat ggg agg cgc aga gcc ttt cag acc tgt 720
 Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Arg Ala Phe Gln Thr Cys 240
 225 230 235

gcc tcc cac tgt att gtg gtc ctt tgc ttc ttt gtt ccc tgt gtt gtc 768
 Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val 255
 245 250

att tat ctg agg cca ggc tcc atg gat gcc atg gat gga gtt gtg gcc 816
 Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala 270
 260 265

att ttc tac act gtg ctg acg ccc ctt ctc aac cct gtt gtg tac acc 864
 Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr 285
 275 280

16U 200 PCT FINAL.ST25
 ctg aga aac aag gag gtg aag aaa gct gtg ttg aaa ctt aga gac aaa 912
 Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys
 290 295 300

gta gca cat cct cag agg aaa taa 936
 Val Ala His Pro Gln Arg Lys
 305 310

<210> 176
 <211> 311
 <212> PRT
 <213> Homo sapiens

<400> 176

Met Ser Asn Ala Ser Leu Val Thr Ala Phe Ile Leu Thr Gly Leu Pro
 1 5 10 15

His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val
 20 25 30

Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg
 35 40 45

Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu
 50 55 60

Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu
 65 70 75 80

Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys
 85 90 95

Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe
 100 105 110

Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro
 115 120 125

Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala
 130 135 140

Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile
 145 150 155 160

Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr
 165 170 175

Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser
 180 185 190

Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly
 195 200 205

Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile
 210 215 220

Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Arg Ala Phe Gln Thr Cys
 225 230 235 240

Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val
 245 250 255

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Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala
 260 265 270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr
 275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys
 290 295 300

Val Ala His Pro Gln Arg Lys
 305 310

<210> 177
 <211> 29
 <212> DNA
 <213> Homo sapiens

<400> 177
 caaccagatc cagcactact tctgtgacg 29

<210> 178
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 178
 ttatttcctc tgaggatgtg ctactttgtc tct 33

<210> 179
 <211> 50
 <212> DNA
 <213> Homo sapiens

<400> 179
 taggagaagc cctttaaaag caggcaatag taaggacatc agtaacaata 50

<210> 180
 <211> 50
 <212> DNA
 <213> Homo sapiens

<400> 180
 gctgggtgct ctttatatcc ccagagggag agagaccaag ggtgagaaga 50

<210> 181
 <211> 921
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(921)
 <223>

<400> 181
 atg gtg act gag ttt ctt ctt ctc ggc ttc tcc cac ctg gcc gac ctc 48
 Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu
 1 5 10 15

cag ggc ttg ctc ttc tct gtc ttt ctc act atc tac ctg ctg acc gtg 96
 Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
 20 25 30

gca ggc aat ttc ctc att gtg gtg ctg gtc tcc act gat gct gcc ctc 144
 Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
 35 40 45

cag tcc cct atg tac ttc ttc ctg cgc acc ctc tcg gcc ttg gag att 192
 Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
 50 55 60

16U 200 PCT FINAL.ST25

ggc tat acg tct gtc acg gtc ccc ctg cta ctt cac cac ctc ctt act 240
 Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr
 65 70 75 80
 ggc cgg cgc cac atc tct cgc tct gga tgt gct ctc cag atg ttc ttc 288
 Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe
 85 90 95
 ttc ctc ttc ttt ggc gcc acg gag tgc tgc ctc ctg gca gcc atg gcc 336
 Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala
 100 105 110
 tat gac cgc tat gca gcc atc tgt gaa ccc ctc cgc tac cca ctg ctg 384
 Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu
 115 120 125
 ctg agc cac cgg gtg tgt cta cag cta gct ggg tcg gcg tgg gcc tgt 432
 Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys
 130 135 140
 ggg gtg ctg gtg ggg ctg ggc cac acc cct ttc atc ttc tct ttg ccc 480
 Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro
 145 150 155 160
 ttc tgc ggc ccc aat acc atc ccg cag ttc ttc tgt gag atc cag cct 528
 Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro
 165 170 175
 gtc ctg cag ctg gta tgt gga gac acc tcg ctt aat gaa ctg cag att 576
 Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile
 180 185 190
 atc ctg gca aca gcc ctc ctc atc ctc tgc ccc ttt ggc ctc atc ctg 624
 Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu
 195 200 205
 ggc tcc tac ggg cgt atc ctc gtt acc atc ttc cgg atc cca tct gtt 672
 Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
 210 215 220
 gcg ggc cgc cgc aag gcc ttc tcc acc tgc tcc tcc cac ctg atc gtg 720
 Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
 225 230 235 240
 gtc tcc ctc ttc tat ggc acc gca ctc ttt atc tat att cgc cct aag 768
 Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
 245 250 255
 gcc agc tac gat ccg gcc act gac cct ctg gtg tcc ctc ttc tat gct 816
 Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
 260 265 270
 gtg gtc acc ccc atc ctc aac ccc atc atc tac agc ctg cgg aac aca 864
 Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
 275 280 285
 gag gtc aaa gct gcc cta aag aga acc atc cag aaa acg gtg cct atg 912
 Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
 290 295 300
 gag att tga 921
 Glu Ile
 305

<210> 182
 <211> 306
 <212> PRT
 <213> Homo sapiens

<400> 182

Met Val Thr Glu Phe Leu Leu Leu Gly Phe Ser His Leu Ala Asp Leu
 1 5 10 15

Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
 20 25 30

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Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
 35 40 45

Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
 50 55 60

Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr
 65 70 75 80

Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe
 85 90 95

Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala
 100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu
 115 120 125

Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys
 130 135 140

Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro
 145 150 155 160

Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro
 165 170 175

Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile
 180 185 190

Ile Leu Ala Thr Ala Leu Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu
 195 200 205

Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
 210 215 220

Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
 225 230 235 240

Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
 245 250 255

Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
 260 265 270

Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
 275 280 285

Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
 290 295 300

Glu Ile
 305

<210> 183
 <211> 20
 <212> DNA
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16U 200 PCT FINAL.ST25

<400> 183
ctcggcttct cccacctggc

20

<210> 184
<211> 23
<212> DNA
<213> Homo sapiens

<400> 184
ggcgccaaag aagaggaaga aga

23

<210> 185
<211> 897
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(897)
<223>

<400> 185
atg ggt cga gga aac agc act gaa gtg act gaa ttc cat ctt ctg gga 48
Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu Leu Gly
1 5 10 15

ttt ggt gtc caa cac gaa ttt cag cat gtc ctt ttc att gta ctt ctt 96
Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu
20 25 30

ctt atc tat gtg acc tcc ctg ata gga aat att gga atg atc tta ctc 144
Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu
35 40 45

atc aag acc gat tcc aga ctt caa aca ccc atg tac ttt ttt cca caa 192
Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln
50 55 60

cat ttg gct ttt gtt gat atc tgt tat act tct gct atc act ccc aag 240
His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
65 70 75 80

atg ctc caa agc ttc aca gaa gaa aat aat ttg ata aca ttt cgg ggc 288
Met Leu Gln Ser Phe Thr Glu Glu Asn Leu Ile Thr Phe Arg Gly
85 90 95

tgt gtg ata caa ttc tta gtt tat gca aca ttt gca acc agt gac tgt 336
Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
100 105 110

tac ctc cta gct att atg gca atg gat tgt tat gtt gcc atc tgt aag 384
Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys
115 120 125

ccc ctt cgc tat ccc atg atc atg tcc caa aca gtc tac atc caa ctc 432
Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu
130 135 140

gta gct ggc tca tat att ata ggc tca ata aat gcc tct gta cat aca 480
Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr
145 150 155 160

ggg ttt aca ttt tca ctg tcc ttc tgc aag tct aat aaa atc aat cac 528
Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His
165 170 175

ttt ttc tgt gat ggt ctc cca att ctt gcc ctt tca tgc tcc aac att 576
Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
180 185 190

gac atc aac atc att cta gat gtt gtc ttt gtg gga ttt gac ttg atg 624
Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met
195 200 205

ttc act gag ttg gtc atc atc ttt tcc tac atc tac att atg gtc acc 672
Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr
210 215 220

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atc ctg aag atg tct tct act gct ggg agg aaa aaa tcc ttc tcc aca 720
 Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240

tgt gcc tcc cac ctg aca gca gta acc att ttc tat ggg aca ctc tct 768
 Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255

tac atg tac tta cag cct cag tct aat aat tct cag gag aat atg aaa 816
 Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270

gta gcc tct ata ttt tat ggc act gtt att ccc atg ttg aat cct tta 864
 Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

atc tat agc ttg aga aat aag gaa gga aaa taa 897
 Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
 290 295

<210> 186
 <211> 298
 <212> PRT
 <213> Homo sapiens

<400> 186

Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu Leu Gly
 1 5 10 15

Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu
 20 25 30

Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu
 35 40 45

Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln
 50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Asn Asn Leu Ile Thr Phe Arg Gly
 85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110

Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys
 115 120 125

Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu
 130 135 140

Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr
 145 150 155 160

Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His
 165 170 175

Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
 180 185 190

Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met
 195 200 205

16U 200 PCT FINAL.ST25

Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr
 210 215 220

Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255

Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270

Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
 290 295

<210> 187
 <211> 930
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(930)
 <223>

<400> 187
 atg aca cta gga aac agc act gaa gtc act gaa ttc tat ctt ctg gga 48
 Met Thr Leu Gly Asn Ser Thr Glu Val Thr Glu Phe Tyr Leu Leu Gly
 1 5 10 15
 ttt ggt gcc cag cat gag ttt tgg tgt atc ctc ttc att gta ttc ctt 96
 Phe Gly Ala Gln His Glu Phe Trp Cys Ile Leu Phe Ile Val Phe Leu
 20 25 30
 ctc atc tat gtg acc tcc ata atg ggt aat agt gga ata atc tta ctc 144
 Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
 35 40 45
 atc aac aca gat tcc aga ttt caa aca ctc acg tac ttt ttt cta caa 192
 Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
 50 55 60
 cat ttg gct ttt gtt gat atc tgt tac act tct gct atc act ccc aag 240
 His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80
 atg ctc caa agc ttc aca gaa gaa aag aat ttg atg tta ttt cag ggc 288
 Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Met Leu Phe Gln Gly
 85 90 95
 tgt gtg ata caa ttc tta gtt tat gca aca ttt gca acc agt gac tgt 336
 Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110
 tat ctc ctg gct atg atg gca gtg gat cct tat gtt gcc atc tgt aag 384
 Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
 115 120 125
 ccc ctt cac tat act gta atc atg tcc cga aca gtc tgc atc cgt ttg 432
 Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu
 130 135 140
 gta gct ggt tca tac atc atg ggc tca ata aat gcc tct gta caa aca 480
 Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr
 145 150 155 160
 ggt ttt aca tgt tca ctg tcc ttc tgc aag tcc aat agc atc aat cac 528
 Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His

165 170 16U 200 PCT FINAL.ST25 175

ttt ttc tgt gat gtt ccc cct att ctt gct ctt tca tgc tcc aat gtt 576
Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val
180 185 190

gac atc aac atc atg cta ctt gtt gtc ttt gtg gga tct aac ttg ata 624
Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile
195 200 205

ttc act ggg ttg gtc gtc atc ttt tcc tac atc tac atc atg gcc acc 672
Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr
210 215 220

atc ctg aaa atg tct tct agt gca gga agg aaa aaa tcc ttc tca aca 720
Ile Leu Lys Met Ser Ser Ser Ala Gly Arg Lys Lys Ser Phe Ser Thr
225 230 235 240

tgt gct tcc cac ctg acc gca gtc acc att ttc tat ggg aca ctc tct 768
Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
245 250 255

tac atg tat ttg cag tct cat tct aat aat tcc cag gaa aat atg aaa 816
Tyr Met Tyr Leu Gln Ser His Ser Asn Asn Ser Gln Glu Asn Met Lys
260 265 270

gtg gcc ttt ata ttt tat ggc aca gtt att ccc atg tta aat cct tta 864
Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
275 280 285

atc tat agc ttg aga aat aag gaa gta aaa gaa gct tta aaa gtg ata 912
Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Lys Val Ile
290 295 300

ggg aaa aag tta ttt taa 930
Gly Lys Lys Leu Phe
305

<210> 188
<211> 309
<212> PRT
<213> Homo sapiens

<400> 188

Met Thr Leu Gly Asn Ser Thr Glu Val Thr Glu Phe Tyr Leu Leu Gly
1 5 10 15

Phe Gly Ala Gln His Glu Phe Trp Cys Ile Leu Phe Ile Val Phe Leu
20 25 30

Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
35 40 45

Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Met Leu Phe Gln Gly
85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
100 105 110

Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu

16U 200 PCT FINAL.ST25
140

130

135

Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr
145 150 155 160

Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His
165 170 175

Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val
180 185 190

Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile
195 200 205

Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr
210 215 220

Ile Leu Lys Met Ser Ser Ser Ala Gly Arg Lys Lys Ser Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
245 250 255

Tyr Met Tyr Leu Gln Ser His Ser Asn Asn Ser Gln Glu Asn Met Lys
260 265 270

Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
275 280 285

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290 295 300

Gly Lys Lys Leu Phe
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1 5 10 15

tgc atg ata caa tta ttg gtt tat gca aca ttt gca acc agt gac tgt 96
Cys Met Ile Gln Leu Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
20 25 30

tat ctc ctg gct atg ata gca gtg gac cat tat gtt gca atc tgt aag 144
Tyr Leu Leu Ala Met Ile Ala Val Asp His Tyr Val Ala Ile Cys Lys
35 40 45

ccc ctt cac tat acc gta atc acg tcc caa aca gtc tgc atc cat ttg 192
Pro Leu His Tyr Thr Val Ile Thr Ser Gln Thr Val Cys Ile His Leu
50 55 60

gta gct ggt tca tac atc atg ggc tca ata aat gcc tct gta cat aca 240
Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val His Thr
65 70 75 80

ggc ttt gca ttt tca ctg tct ttc tgc aag tcc aat aac atc aac cac 288

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Tyr Leu Leu Ala Met Ile Ala Val Asp His Tyr Val Ala Ile Cys Lys
35 40 45

Pro Leu His Tyr Thr Val Ile Thr Ser Gln Thr Val Cys Ile His Leu
50 55 60

Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val His Thr
65 70 75 80

Gly Phe Ala Phe Ser Leu Ser Phe Cys Lys Ser Asn Asn Ile Asn His
85 90 95

Phe Phe Cys Asp Gly Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
100 105 110

Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Phe Asn Leu Met
115 120 125

Phe Thr Gly Leu Glu Asn Met Lys Val Ala Ser Ile Phe Tyr Gly Thr
130 135 140

Val	Ile	Pro	Met	Leu	Asn	Pro	Leu	Ile	Tyr	Ser	Leu	Arg	Asn	Lys	Glu
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Val Lys Glu Ala Leu Lys Leu Ile Gly Lys Lys Phe Phe
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 Met Ser Gln Arg
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 Leu Cys Ile Lys Leu Leu Val Ser Ser Tyr Val Met Gly Phe Leu Asn
 5 10 15 20

gcc tct ata aac ata agt ttc act ttc tca ttg aac ttc tgc aaa tcc 150
 Ala Ser Ile Asn Ile Ser Phe Thr Phe Ser Leu Asn Phe Cys Lys Ser
 25 30 35

aaa aca att aat cac ttt ttc tgt gat gaa cct cca att att gcc cta 198
 Lys Thr Ile Asn His Phe Phe Cys Asp Glu Pro Pro Ile Ile Ala Leu
 40 45 50

cca tgc tcc aat att gac ctc aac atc atg tta tta aca gta ttt gtg 246
 Pro Cys Ser Asn Ile Asp Leu Asn Ile Met Leu Leu Thr Val Phe Val
 55 60 65

gga tta aat ttg atg tgc act gtg atg gtg gtc atc att tcc tgc ata 294
 Gly Leu Asn Leu Met Cys Thr Val Met Val Val Ile Ile Ser Cys Ile
 70 75 80

tat gtc ctg gtt gcc atc ctg agg ata tct tct gct gca ggg aag aaa 342
 Tyr Val Leu Val Ala Ile Leu Arg Ile Ser Ser Ala Ala Gly Lys Lys
 85 90 95 100

aaa gtc tct cta cat gtg cct ccc acc tga cagcagtcac cattttctat 392
 Lys Val Ser Leu His Val Pro Pro Thr
 105

ggggttctct cttacatgta tctatgccat cgtattaatg agtctcaaaa acaagaaaaa 452

gtggcctctg tgttttatgg cattattatt cccatgttaa acccctt 499

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<211> 109

<212> PRT

<213> Homo sapiens

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Met Ser Gln Arg Leu Cys Ile Lys Leu Leu Val Ser Ser Tyr Val Met
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Gly Phe Leu Asn Ala Ser Ile Asn Ile Ser Phe Thr Phe Ser Leu Asn
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Phe Cys Lys Ser Lys Thr Ile Asn His Phe Phe Cys Asp Glu Pro Pro
 35 40 45

Ile Ile Ala Leu Pro Cys Ser Asn Ile Asp Leu Asn Ile Met Leu Leu
 50 55 60

Thr Val Phe Val Gly Leu Asn Leu Met Cys Thr Val Met Val Val Ile
 65 70 75 80

Ile Ser Cys Ile Tyr Val Leu Val Ala Ile Leu Arg Ile Ser Ser Ala
 85 90 95

Ala Gly Lys Lys Lys Val Ser Leu His Val Pro Pro Thr
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 Met Ala Tyr Asp Arg Tyr Met Ala Ile Ser Lys Pro Leu Leu Tyr Ser
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 Arg Ala Thr Phe Pro Glu Leu Cys Ala Ser Leu Val Glu Ala Ser His
 20 25 30
 ctt ggc ggc ttt gta aac tca acc atc atc acc agt gag aca cct acc 144
 Leu Gly Gly Phe Val Asn Ser Thr Ile Ile Thr Ser Glu Thr Pro Thr
 35 40 45
 ttg agc ttc tgt ggc agc aat atc att gat gat ttc ttc tgt gat ctg 192
 Leu Ser Phe Cys Gly Ser Asn Ile Ile Asp Asp Phe Phe Cys Asp Leu
 50 55 60
 ccc cca ctt gta aag ttg gtg tgt gat gtg aag gag cgc tac cag gct 240
 Pro Pro Leu Val Lys Leu Val Cys Asp Val Lys Glu Arg Tyr Gln Ala
 65 70 75 80
 gtg ctg cat ttt atg ctt gcc tcc aat cat cac tcc cac tgc act tat 288
 Val Leu His Phe Met Leu Ala Ser Asn His His Ser His Cys Thr Tyr
 85 90 95
 tct tgc gtc cat ctc ttc atc att gca gcc atc tcg aag atc cgt tcc 336
 Ser Cys Val His Leu Phe Ile Ile Ala Ala Ile Ser Lys Ile Arg Ser
 100 105 110
 att aag ggc cgc ctc cag gtc ttc tcc act tgt ggg tct ccc ctg acg 384
 Ile Lys Gly Arg Leu Gln Val Phe Ser Thr Cys Gly Ser Pro Leu Thr
 115 120 125
 gct ctc acc ttg tac tat ggt gca atc ttc ttt att tac tcc caa cca 432
 Ala Leu Thr Leu Tyr Tyr Gly Ala Ile Phe Phe Ile Tyr Ser Gln Pro
 130 135 140
 aga act agc tat gcc tta aaa atg gat aaa ttg ggg tca gtg ttc tat 480
 Arg Thr Ser Tyr Ala Leu Lys Met Asp Lys Leu Gly Ser Val Phe Tyr
 145 150 155 160
 act gtg gtg att cca atg cta aac ccc ttg atc tat agc tta aga aat 528
 Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn
 165 170 175
 aag gat gtc aaa gat gcc ttg aag aaa atg tta gat aga ctt cag ttt 576
 Lys Asp Val Lys Asp Ala Leu Lys Lys Met Leu Asp Arg Leu Gln Phe
 180 185 190
 ctt aaa gaa aaa tat tgt aga tat ggg ctg gcc tgt agt gag cgc tac 624
 Leu Lys Glu His Tyr Cys Arg Tyr Gly Leu Ala Cys Ser Glu Arg Tyr
 195 200 205
 ctc ctg gct gcc atg ggt tat gac tgc tat gag gca atc tcc aag ccc 672
 Leu Leu Ala Ala Met Gly Tyr Asp Cys Tyr Glu Ala Ile Ser Lys Pro
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 ctg ctt taa 681
 Leu Leu
 225

<210> 194
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Met Ala Tyr Asp Arg Tyr Met Ala Ile Ser Lys Pro Leu Leu Tyr Ser
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Arg Ala Thr Phe Pro Glu Leu Cys Ala Ser Leu Val Glu Ala Ser His
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Leu Gly Gly Phe Val Asn Ser Thr Ile Ile Thr Ser Glu Thr Pro Thr
 35 40 45

Leu Ser Phe Cys Gly Ser Asn Ile Ile Asp Asp Phe Phe Cys Asp Leu
 50 55 60

Pro Pro Leu Val Lys Leu Val Cys Asp Val Lys Glu Arg Tyr Gln Ala
 65 70 75 80

Val Leu His Phe Met Leu Ala Ser Asn His His Ser His Cys Thr Tyr
 85 90 95

Ser Cys Val His Leu Phe Ile Ile Ala Ala Ile Ser Lys Ile Arg Ser
 100 105 110

Ile Lys Gly Arg Leu Gln Val Phe Ser Thr Cys Gly Ser Pro Leu Thr
 115 120 125

Ala Leu Thr Leu Tyr Tyr Gly Ala Ile Phe Phe Ile Tyr Ser Gln Pro
 130 135 140

Arg Thr Ser Tyr Ala Leu Lys Met Asp Lys Leu Gly Ser Val Phe Tyr
 145 150 155 160

Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn
 165 170 175

Lys Asp Val Lys Asp Ala Leu Lys Lys Met Leu Asp Arg Leu Gln Phe
 180 185 190

Leu Lys Glu Lys Tyr Cys Arg Tyr Gly Leu Ala Cys Ser Glu Arg Tyr
 195 200 205

Leu Leu Ala Ala Met Gly Tyr Asp Cys Tyr Glu Ala Ile Ser Lys Pro
 210 215 220

Leu Leu
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48

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 Ser Asp Ala Gly Thr Ser Cys Pro Val Leu Cys Thr Cys Arg Asn Gln
 20 25 30

96

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gtg gtg gat tgt agc agc cag cgg cta ttc tcc gtg ccc cca gac ctg 144
Val Val Asp Cys Ser Ser Gln Arg Leu Phe Ser Val Pro Pro Asp Leu
35 40 45

cca atg gac acc cga aac ctc agc ctg gcc cac aac cgc atc aca gca 192
Pro Met Asp Thr Arg Asn Leu Ser Leu Ala His Asn Arg Ile Thr Ala
50 55 60

gtg ccg cct ggc tac ctc aca tgc tac atg gag ctc cag gtg ctg gat 240
Val Pro Pro Gly Tyr Thr Cys Tyr Met Glu Leu Gln Val Leu Asp
65 70 75 80

ttg cac aac aac tcc tta atg gag ctg ccc cgg ggc ctc ttc ctc cat 288
Leu His Asn Asn Ser Leu Met Glu Leu Pro Arg Gly Leu Phe Leu His
85 90 95

gcc aag cgc ttg gca cac ttg gac ctg agc tac aac aat ttc agc cat 336
Ala Lys Arg Leu Ala His Leu Asp Leu Ser Tyr Asn Asn Phe Ser His
100 105 110

gtg cca gcc gac atg ttc cag gag gcc cat ggg cta gtc cac atc gac 384
Val Pro Ala Asp Met Phe Gln Glu Ala His Gly Leu Val His Ile Asp
115 120 125

ctg agc cac aac ccc tgg ctg cgg agg gtg cat ccc cag gcc ttt cag 432
Leu Ser His Asn Pro Trp Leu Arg Arg Val His Pro Gln Ala Phe Gln
130 135 140

ggc ctc atg cag ctc cga gac ctg gac ctc agt tat ggg ggc ctg gcc 480
Gly Leu Met Gln Leu Arg Asp Leu Asp Leu Ser Tyr Gly Gly Leu Ala
145 150 155 160

ttc ctc agc ctg gag gct ctt gag ggc cta ccg ggg ctg gtg acc ctg 528
Phe Leu Ser Leu Glu Ala Leu Glu Gly Leu Pro Gly Leu Val Thr Leu
165 170 175

cag atc ggt ggc aat ccc tgg gtg tgt ggc tgc acc atg gaa ccc ctg 576
Gln Ile Gly Gly Asn Pro Trp Val Cys Gly Cys Thr Met Glu Pro Leu
180 185 190

ctg aag tgg ctg cga aac cgg atc cag cgc tgt aca gca gag tca ggt 624
Leu Lys Trp Leu Arg Asn Arg Ile Gln Arg Cys Thr Ala Glu Ser Gly
195 200 205

tct ggc ctg ccg gaa gag tca gaa cct gag tcc tgg act ggc caa agg 672
Ser Gly Leu Pro Glu Glu Ser Glu Pro Glu Ser Trp Thr Gly Gln Arg
210 215 220

gct gca gta gag ttc cag gac ctc atg cag ctc caa gac ctg gat ctc 720
Ala Ala Val Glu Phe Gln Asp Leu Met Gln Leu Gln Asp Leu Asp Leu
225 230 235 240

agc tac gag aac ctg gct ttc ctc aaa ctc aag gcc ctg agc agt gta 768
Ser Tyr Glu Asn Leu Ala Phe Leu Lys Leu Lys Ala Leu Ser Ser Val
245 250 255

aac ttt ggg cac agg caa gcg gtt gtg ggt gga ctt tcc aat ccc ctc 816
Asn Phe Gly His Arg Gln Ala Val Val Gly Gly Leu Ser Asn Pro Leu
260 265 270

tcc ttc cct ggg tac ctc acc ctc cct ggc ttc tgt gtt aca gat tct 864
Ser Phe Pro Gly Tyr Leu Thr Leu Pro Gly Phe Cys Val Thr Asp Ser
275 280 285

cag ctg gct gag tgc cgg ggc cct cct gaa gtc gag ggc gcc ccg ctc 912
Gln Leu Ala Glu Cys Arg Gly Pro Pro Glu Val Glu Gly Ala Pro Leu
290 295 300

ttc tca ctc act gag gag agc ttc aag gcc tgc cac ctg acc ctg acc 960
Phe Ser Leu Thr Glu Glu Ser Phe Lys Ala Cys His Leu Thr Leu Thr
305 310 315 320

ctg gat gat tac cta ttc att gcg ttc gtg ggc ttc gtg gtc tcc att 1008
Leu Asp Asp Tyr Leu Phe Ile Ala Phe Val Gly Phe Val Val Ser Ile
325 330 335

gct tct gtg gcc acc aac ttc ctc ctg ggc atc act gcc aac tgc tgc 1056
Ala Ser Val Ala Thr Asn Phe Leu Leu Gly Ile Thr Ala Asn Cys Cys
340 345 350

16U 200 PCT FINAL.ST25

cac cgc tgg agc aag gcc agt gaa gag gaa gag atc tga
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1095

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Val Val Asp Cys Ser Ser Gln Arg Leu Phe Ser Val Pro Pro Asp Leu
 35 40 45

Pro Met Asp Thr Arg Asn Leu Ser Leu Ala His Asn Arg Ile Thr Ala
 50 55 60

Val Pro Pro Gly Tyr Leu Thr Cys Tyr Met Glu Leu Gln Val Leu Asp
 65 70 75 80

Leu His Asn Asn Ser Leu Met Glu Leu Pro Arg Gly Leu Phe Leu His
 85 90 95

Ala Lys Arg Leu Ala His Leu Asp Leu Ser Tyr Asn Asn Phe Ser His
 100 105 110

Val Pro Ala Asp Met Phe Gln Glu Ala His Gly Leu Val His Ile Asp
 115 120 125

Leu Ser His Asn Pro Trp Leu Arg Arg Val His Pro Gln Ala Phe Gln
 130 135 140

Gly Leu Met Gln Leu Arg Asp Leu Asp Leu Ser Tyr Gly Gly Leu Ala
 145 150 155 160

Phe Leu Ser Leu Glu Ala Leu Glu Gly Leu Pro Gly Leu Val Thr Leu
 165 170 175

Gln Ile Gly Gly Asn Pro Trp Val Cys Gly Cys Thr Met Glu Pro Leu
 180 185 190

Leu Lys Trp Leu Arg Asn Arg Ile Gln Arg Cys Thr Ala Glu Ser Gly
 195 200 205

Ser Gly Leu Pro Glu Glu Ser Glu Pro Glu Ser Trp Thr Gly Gln Arg
 210 215 220

Ala Ala Val Glu Phe Gln Asp Leu Met Gln Leu Gln Asp Leu Asp Leu
 225 230 235 240

Ser Tyr Glu Asn Leu Ala Phe Leu Lys Leu Lys Ala Leu Ser Ser Val
 245 250 255

Asn Phe Gly His Arg Gln Ala Val Val Gly Gly Leu Ser Asn Pro Leu
 260 265 270

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Ser Phe Pro Gly Tyr Leu Thr Leu Pro Gly Phe Cys Val Thr Asp Ser
 275 280 285

Gln Leu Ala Glu Cys Arg Gly Pro Pro Glu Val Glu Gly Ala Pro Leu
 290 295 300

Phe Ser Leu Thr Glu Glu Ser Phe Lys Ala Cys His Leu Thr Leu Thr
 305 310 315 320

Leu Asp Asp Tyr Leu Phe Ile Ala Phe Val Gly Phe Val Val Ser Ile
 325 330 335

Ala Ser Val Ala Thr Asn Phe Leu Leu Gly Ile Thr Ala Asn Cys Cys
 340 345 350

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<210> 211
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<210> 213
 <211> 50
 <212> DNA
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<400> 213
 cacacacaca tatatatata cacacatata ttataatca tttaacaaca 50

<210> 214
 <211> 933
 <212> DNA
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ttc act gaa tat cct gaa tgg gca ctc cct ctc ttc ctc ttg ttt tta 96
 Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Phe Leu
 20 25 30

ttt atg tat ctc atc acc gta ttg ggg aac tta gag atg att att ctg 144
 Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu
 35 40 45

atc ctc atg gat cac cag ctc cac gct cca atg tat ttc ctt ctg agt 192
 Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser
 50 55 60

cac ctc gct ttc atg gac gtc tgc tac tca tct atc act gtc ccc cag 240
 His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln
 65 70 75 80

atg ctg gca gtg ctg ctg gag cat ggg gca gct tta tct tac aca cgc 288
 Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg
 85 90 95

tgt gct gct cag ttc ttt ctg ttc acc ttc ttt ggt tcc atc gac tgc 336
 Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys
 100 105 110

tac ctc ttg gcc ctc atg gcc tat gac cgc tac ttg gct gtg tgc cag 384
 Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln
 115 120 125

ccc ctg ctt tat gtc acc atc ctg aca cag cag gcc cgc ttg agt ctt 432
 Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu
 130 135 140

gtg gct ggg gct tac gtt gct ggt ctc atc agt gcc ttg gtg cgg aca 480
 Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr
 145 150 155 160

gtc tca gcc ttc act ctc tcc ttc tgt gga acc agt gag att gac ttt 528
 Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe
 165 170 175

att ttc tgt gac ctc cct cct ctg tta aag ttg acc tgt ggg gag agc 576
 Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser
 180 185 190

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tac act caa gaa gtg ctg att att atg ttt gcc att ttt gtc atc cct 624
 Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro
 195 200 205
 gct tcc atg gtg gtg atc ttg gtg tcc tac ctg ttt atc atc gtg gcc 672
 Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala
 210 215 220
 atc atg ggg atc cct gct gga agc cag gcc aag acc ttc tcc acc tgc 720
 Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys
 225 230 235 240
 acc tcc cac ctg act gct gtg tca ctg ttc ttt ggt acc ctg atc ttc 768
 Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe
 245 250 255
 atg tac ttg aga ggt aac tca gat cag tct tcg gag aag aat cgg gta 816
 Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val
 260 265 270
 gtg tct gtg ctt tac aca gag gtc atc ccc atg ttg aat ccc ctg atc 864
 Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile
 275 280 285
 tac agc ctg agg aac aag gaa gtg aag gag gcc ctg aga aaa att ctg 912
 Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu
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 Asn Arg Ala Lys Leu Ser
 305 310

<210> 215
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<400> 215

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 Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Phe Leu
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 Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu
 35 40 45
 Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser
 50 55 60
 His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln
 65 70 75 80
 Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg
 85 90 95
 Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys
 100 105 110
 Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln
 115 120 125
 Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu
 130 135 140
 Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr
 145 150 155 160

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Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe
 165 170 175

Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser
 180 185 190

Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro
 195 200 205

Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala
 210 215 220

Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys
 225 230 235 240

Thr Ser His Leu Thr Ala Val Ser Leu Phe Phe Gly Thr Leu Ile Phe
 245 250 255

Met Tyr Leu Arg Gly Asn Ser Asp Gln Ser Ser Glu Lys Asn Arg Val
 260 265 270

Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile
 275 280 285

Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu
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Asn Arg Ala Lys Leu Ser
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cag gtt ggt cca gca ctg gag att ctc ctc tgt gga ctt ttc tct gcc 96
 Gln Val Gly Pro Ala Leu Glu Ile Leu Leu Cys Gly Leu Phe Ser Ala
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ttc tat aca ctc acc ctg ctg ggg aat ggg gtc atc ttt ggg att atc 144
 Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
 35 40 45

tgc ctg gac tgt aag ctt cac aca ccc atg tac ttc ttc ctc tca cac 192
 Cys Leu Asp Cys Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
 50 55 60

ctg gcc att gtt gac ata tcc tat gct tcc aac tat gtc ccc aag atg 240
 Leu Ala Ile Val Asp Ile Ser Tyr Ala Ser Asn Tyr Val Pro Lys Met
 65 70 75 80

ctg acg aat ctt atg aac cag gaa agc acc atc tcc ttt ttt cca tgc 288
 Leu Thr Asn Leu Met Asn Gln Glu Ser Thr Ile Ser Phe Phe Pro Cys
 85 90 95

ata atg cag aca ttc ttg tat ttg gct ttt gct cac gta gag tgt ctg 336
 Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala His Val Glu Cys Leu

100 105 160 200 PCT FINAL.ST25 110

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 Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Ala Asp Ile Cys His Pro
 115 120 125

tta cgt tac aat agc ctc atg agc tgg aga gtg tgc act gtc ctg gct 432
 Leu Arg Tyr Asn Ser Leu Met Ser Trp Arg Val Cys Thr Val Leu Ala
 130 135 140

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 Val Ala Ser Trp Val Phe Ser Phe Leu Leu Ala Leu Val Pro Leu Val
 145 150 155 160

ctc atc ctg agc ctg ccc ttc tgc ggg cct cat gaa atc aac cac ttc 528
 Leu Ile Leu Ser Leu Pro Phe Cys Gly Pro His Glu Ile Asn His Phe
 165 170 175

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 Phe Cys Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp Thr Trp
 180 185 190

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 195 200 205

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 225 230 235 240

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 245 250 255

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 Thr Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys Val
 260 265 270

ctt tcc ctg ttt tac agc ctt ttc aat cca atg ctg aac ccc ctg ata 864
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 275 280 285

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agg aag gag agg ctg acg tga 933
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 305 310

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Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
 35 40 45

Cys Leu Asp Cys Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
 50 55 60

Leu Ala Ile Val Asp Ile Ser Tyr Ala Ser Asn Tyr Val Pro Lys Met

65	70										160	200	PCT	FINAL	ST25	80
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Ile	Met	Gln	Thr 100	Phe	Leu	Tyr	Leu	Ala 105	Phe	Ala	His	Val	Glu 110	Cys	Leu	
Ile	Leu	Val 115	Val	Met	Ser	Tyr	Asp 120	Arg	Tyr	Ala	Asp	Ile 125	Cys	His	Pro	
Leu	Arg 130	Tyr	Asn	Ser	Leu	Met 135	Ser	Trp	Arg	Val	Cys 140	Thr	Val	Leu	Ala	
Val 145	Ala	Ser	Trp	Val	Phe 150	Ser	Phe	Leu	Leu	Ala 155	Leu	Val	Pro	Leu	Val 160	
Leu	Ile	Leu	Ser	Leu 165	Pro	Phe	Cys	Gly	Pro 170	His	Glu	Ile	Asn	His 175	Phe	
Phe	Cys	Glu	Ile 180	Leu	Ser	Val	Leu	Lys 185	Leu	Ala	Cys	Ala	Asp 190	Thr	Trp	
Leu	Asn	Gln 195	Val	Val	Ile	Phe	Ala 200	Ala	Cys	Val	Phe	Ile 205	Leu	Val	Gly	
Pro	Leu 210	Cys	Leu	Val	Leu	Val 215	Ser	Tyr	Leu	Arg	Ile 220	Leu	Ala	Ala	Ile	
Leu 225	Arg	Ile	Gln	Ser	Gly 230	Glu	Gly	Arg	Arg	Lys 235	Ala	Phe	Ser	Thr	Cys 240	
Ser	Ser	His	Leu	Cys 245	Val	Val	Gly	Leu	Phe 250	Phe	Gly	Ser	Ala	Ile 255	Val	
Thr	Tyr	Met	Ala 260	Pro	Lys	Ser	Arg	His 265	Pro	Glu	Glu	Gln	Gln 270	Lys	Val	
Leu	Ser	Leu 275	Phe	Tyr	Ser	Leu	Phe 280	Asn	Pro	Met	Leu	Asn 285	Pro	Leu	Ile	
Tyr	Ser	Leu 290	Arg	Asn	Ala	Glu 295	Val	Lys	Gly	Ala	Leu 300	Arg	Arg	Ala	Leu	
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att tct aac tat cct caa tgg aga gac acg ttt ttc aca tta gtg ctg      96

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Ile	Ser	Asn	Tyr	Pro	Gln	Trp	Arg	Asp	Thr	Phe	Phe	Thr	Leu	Val	Leu	
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Ile	Ile	Tyr	Leu	Ser	Thr	Leu	Leu	Gly	Asn	Gly	Phe	Met	Ile	Phe	Leu	
		35				40					45					
att	cac	ttt	gac	ccc	aac	ctc	cac	act	cca	atc	tac	ttc	ttc	ctt	agt	192
Ile	His	Phe	Asp	Pro	Asn	Leu	His	Thr	Pro	Ile	Tyr	Phe	Phe	Leu	Ser	
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aac	ctg	tct	ttc	tta	gac	ctt	tgt	tat	gga	aca	gct	tcc	atg	ccc	cag	240
Asn	Leu	Ser	Phe	Leu	Asp	Leu	Cys	Tyr	Gly	Thr	Ala	Ser	Met	Pro	Gln	
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gct	ttg	gtg	cat	tgt	ttc	tct	acc	cat	ccc	tac	ctc	tct	tat	ccc	cga	288
Ala	Leu	Val	His	Cys	Phe	Ser	Thr	His	Pro	Tyr	Leu	Ser	Tyr	Pro	Arg	
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tgt	ttg	gct	caa	acg	agt	gtc	tcc	ttg	gct	ttg	gcc	aca	gca	gag	tgc	336
Cys	Leu	Ala	Gln	Thr	Ser	Val	Ser	Leu	Ala	Leu	Ala	Thr	Ala	Glu	Cys	
			100				105						110			
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Leu	Leu	Leu	Ala	Ala	Met	Ala	Tyr	Asp	Arg	Val	Val	Ala	Ile	Ser	Asn	
			115				120					125				
ccc	ctg	cgt	tat	tca	gtg	gtt	atg	aat	ggc	cca	gta	tgt	gtc	tgc	ttg	432
Pro	Leu	Arg	Tyr	Ser	Val	Val	Met	Asn	Gly	Pro	Val	Cys	Val	Cys	Leu	
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Val	Ala	Thr	Ser	Trp	Gly	Thr	Ser	Leu	Val	Leu	Thr	Ala	Met	Leu	Ile	
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Leu	Ser	Leu	Arg	Leu	His	Phe	Cys	Gly	Ala	Asn	Val	Ile	Asn	His	Phe	
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gcc	tgt	gag	att	ctc	tcc	ctc	att	aag	ctg	acc	tgt	tct	gat	acc	agc	576
Ala	Cys	Glu	Ile	Leu	Ser	Leu	Ile	Lys	Leu	Thr	Cys	Ser	Asp	Thr	Ser	
			180					185					190			
ctc	aat	gaa	ttt	atg	atc	ctc	atc	acc	agt	atc	ttc	acc	ctg	ctg	cta	624
Leu	Asn	Glu	Phe	Met	Ile	Leu	Ile	Thr	Ser	Ile	Phe	Thr	Leu	Leu	Leu	
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Pro	Phe	Gly	Phe	Val	Leu	Leu	Ser	Tyr	Ile	Arg	Ile	Ala	Met	Ala	Ile	
		210				215					220					
ata	agg	att	cgc	tca	ctc	cag	ggc	agg	ctc	aag	gcc	ttt	acc	aca	tgt	720
Ile	Arg	Ile	Arg	Ser	Leu	Gln	Gly	Arg	Leu	Lys	Ala	Phe	Thr	Thr	Cys	
225				230					235						240	
ggc	tct	cac	ctg	acc	gtg	gtg	aca	atc	ttc	tat	ggg	tca	gcc	atc	tcc	768
Gly	Ser	His	Leu	Thr	Val	Val	Thr	Ile	Phe	Tyr	Gly	Ser	Ala	Ile	Ser	
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Met	Tyr	Met	Lys	Thr	Gln	Ser	Lys	Ser	Tyr	Pro	Asp	Gln	Asp	Lys	Phe	
			260					265					270			
atc	tca	gtg	ttt	tat	gga	gct	ttg	aca	ccc	atg	ttg	aac	ccc	ctg	ata	864
Ile	Ser	Val	Phe	Tyr	Gly	Ala	Leu	Thr	Pro	Met	Leu	Asn	Pro	Leu	Ile	
		275				280						285				
tat	agc	ctg	aga	aaa	aaa	gat	gtt	aaa	cgg	gca	ata	agg	aaa	gtt	atg	912
Tyr	Ser	Leu	Arg	Lys	Lys	Asp	Val	Lys	Arg	Ala	Ile	Arg	Lys	Val	Met	
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Leu	Lys	Arg	Thr													
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16U 200 PCT FINAL.ST25

<213> Homo sapiens

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Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu
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Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser
 50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln
 65 70 75 80

Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg
 85 90 95

Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys
 100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn
 115 120 125

Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu
 130 135 140

Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile
 145 150 155 160

Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe
 165 170 175

Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser
 180 185 190

Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu
 195 200 205

Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile
 210 215 220

Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys
 225 230 235 240

Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser
 245 250 255

Met Tyr Met Lys Thr Gln Ser Lys Ser Tyr Pro Asp Gln Asp Lys Phe
 260 265 270

Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile
 275 280 285

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Leu Ile Ile Ala Thr Asn Thr Leu Val Ala Val Ala Val Leu Leu Leu
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atc cac aag aat gat ggt gtc agt ctc tgc ttc acc ttg aat ctg gct 144
Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
35 40 45
gtg gct gac acc ttg att ggt gtg gcc atc tct ggc cta ctc aca gac 192
Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp
50 55 60
cag ctc tcc agc cct tct cgg ccc aca cag aag acc ctg tgc agc ctg 240
Gln Leu Ser Ser Pro Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
65 70 75 80
cgg atg gca ttt gtc act tcc tcc gca gct gcc tct gtc ctc acg gtc 288
Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
85 90 95
atg ctg atc acc ttt gac agg tac ctt gcc atc aag cag ccc ttc cgc 336
Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
100 105 110
tac ttg aag atc atg agt ggg ttc gtg gcc ggg gcc tgc att gcc ggg 384
Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
115 120 125
ctg tgg tta gtg tct tac ctc att ggc ttc ctc cca ctc gga atc ccc 432
Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro
130 135 140
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Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
145 150 155 160
ttt cac cct cac ttc gtg ctg acc ctc tcc tgc gtt ggc ttc ttc cca 528
Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
165 170 175
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180 185 190
tcc atg cac agc cag cag att cga aag atg gaa cat gca gga gcc atg 624
Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
195 200 205
gct gga ggt tat cga tcc cca cgg act ccc agc gac ttc aaa gct ctc 672
Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
210 215 220
cgt act gtg tct gtt ctc att ggg agc ttt gct cta tcc tgg acc ccc 720
Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
225 230 235 240
ttc ctt atc act ggc att gtg cag gtg gcc tgc cag gag tgt cac ctc 768
Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
245 250 255

16U 200 PCT FINAL.ST25

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Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
35 40 45

Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp
50 55 60

Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
65 70 75 80

Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
85 90 95

Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
100 105 110

Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
115 120 125

Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro
130 135 140

Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
145 150 155 160

Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
165 170 175

Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala
180 185 190

Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
195 200 205

16U 200 PCT FINAL.ST25

Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
210 215 220

Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
225 230 235 240

Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
245 250 255

Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
260 265 270

Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
275 280 285

Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
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Leu Pro Leu Thr Asp Asp Ala Pro Gly Ala Thr Glu Glu Pro Ala
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Ala Ala Glu Ala Ala Gly Ala Pro Asp Arg Val Gly Ser Leu Phe Val
35 40 45
aaa aaa gtg caa gac gtc cat gct gta gag att agt gcg ttt cga tgt 192
Lys Lys Val Gln Asp Val His Ala Val Glu Ile Ser Ala Phe Arg Cys
50 55 60
gtg ttc caa atg cta gtt gtt atc cct tgc tta ata tac aga aaa act 240
Val Phe Gln Met Leu Val Val Ile Pro Cys Leu Ile Tyr Arg Lys Thr
65 70 75 80
ggg ttt ata ggc cca aaa ggt caa cga att ttc ctc att ctc aga gga 288
Gly Phe Ile Gly Pro Lys Gly Gln Arg Ile Phe Leu Ile Leu Arg Gly
85 90 95
gtc ctt ggt tct acc gcc atg atg ctt ata tac tat gct tac cag aca 336
Val Leu Gly Ser Thr Ala Met Met Leu Ile Tyr Tyr Ala Tyr Gln Thr
100 105 110
atg tcc ctc gct gat gcc aca gtt atc acg ttt agc agt cca gtg ttt 384
Met Ser Leu Ala Asp Ala Thr Val Ile Thr Phe Ser Ser Pro Val Phe
115 120 125
acg tcc ata ttt gct tgg ata tgt ctc aag gaa aaa tat agc cct tgg 432
Thr Ser Ile Phe Ala Trp Ile Cys Leu Lys Glu Lys Tyr Ser Pro Trp

130 135 160 200 PCT FINAL.ST25
140

gat gct ctt ttc acc gtg ttc aca atc act gga gtg atc ctt atc gtg 480
Asp Ala Leu Phe Thr Val Phe Thr Ile Thr Gly Val Ile Leu Ile Val
145 150 155 160

aga cca cca ttt ttg ttt ggt tcc gac act tcg ggg atg gaa gaa agc 528
Arg Pro Pro Phe Leu Phe Gly Ser Asp Thr Ser Gly Met Glu Glu Ser
165 170 175

tat tca ggc cac ctt aag gga aca ttc gca gca att gga agt gcc gta 576
Tyr Ser Gly His Leu Lys Gly Thr Phe Ala Ala Ile Gly Ser Ala Val
180 185 190

ttt gct gca tcg act cta gtt atc cta aga aaa atg gga aaa tct gtg 624
Phe Ala Ala Ser Thr Leu Val Ile Leu Arg Lys Met Gly Lys Ser Val
195 200 205

gac tac ttt ctg agc att tgg tat tat gta gta ctt ggc ctc gtt gaa 672
Asp Tyr Phe Leu Ser Ile Trp Tyr Tyr Val Val Leu Gly Leu Val Glu
210 215 220

agt gtc atc atc ctc tct gta tta gga gag tgg agt ctg cct tac tgt 720
Ser Val Ile Ile Leu Ser Val Leu Gly Glu Trp Ser Leu Pro Tyr Cys
225 230 235 240

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Gly Leu Asp Arg Leu Phe Leu Ile Phe Ile Gly Leu Phe Gly Leu Gly
245 250 255

ggt cag ata ttt atc aca aaa gca ctt caa ata gaa aaa gca ggg cca 816
Gly Gln Ile Phe Ile Thr Lys Ala Leu Gln Ile Glu Lys Ala Gly Pro
260 265 270

gta gca ata atg aag aca atg gat gtg gtc ttt gct ttt atc ttt cag 864
Val Ala Ile Met Lys Thr Met Asp Val Val Phe Ala Phe Ile Phe Gln
275 280 285

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Ile Ile Phe Phe Asn Asn Val Pro Thr Trp Trp Thr Val Gly Gly Ala
290 295 300

ctc tgc gta gta gcc agt aat gtt gga gcg gcc att cgt aaa tgg tac 960
Leu Cys Val Val Ala Ser Asn Val Gly Ala Ala Ile Arg Lys Trp Tyr
305 310 315 320

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Gln Ser Ser Lys

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35 40 45

Lys Lys Val Gln Asp Val His Ala Val Glu Ile Ser Ala Phe Arg Cys
50 55 60

Val Phe Gln Met Leu Val Val Ile Pro Cys Leu Ile Tyr Arg Lys Thr
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Gly Phe Ile Gly Pro Lys Gly Gln Arg Ile Phe Leu Ile Leu Arg Gly

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85

90

95

Val Leu Gly Ser Thr Ala Met Met Leu Ile Tyr Tyr Ala Tyr Gln Thr
 100 105 110

Met Ser Leu Ala Asp Ala Thr Val Ile Thr Phe Ser Ser Pro Val Phe
 115 120 125

Thr Ser Ile Phe Ala Trp Ile Cys Leu Lys Glu Lys Tyr Ser Pro Trp
 130 135 140

Asp Ala Leu Phe Thr Val Phe Thr Ile Thr Gly Val Ile Leu Ile Val
 145 150 155 160

Arg Pro Pro Phe Leu Phe Gly Ser Asp Thr Ser Gly Met Glu Glu Ser
 165 170 175

Tyr Ser Gly His Leu Lys Gly Thr Phe Ala Ala Ile Gly Ser Ala Val
 180 185 190

Phe Ala Ala Ser Thr Leu Val Ile Leu Arg Lys Met Gly Lys Ser Val
 195 200 205

Asp Tyr Phe Leu Ser Ile Trp Tyr Tyr Val Val Leu Gly Leu Val Glu
 210 215 220

Ser Val Ile Ile Leu Ser Val Leu Gly Glu Trp Ser Leu Pro Tyr Cys
 225 230 235 240

Gly Leu Asp Arg Leu Phe Leu Ile Phe Ile Gly Leu Phe Gly Leu Gly
 245 250 255

Gly Gln Ile Phe Ile Thr Lys Ala Leu Gln Ile Glu Lys Ala Gly Pro
 260 265 270

Val Ala Ile Met Lys Thr Met Asp Val Val Phe Ala Phe Ile Phe Gln
 275 280 285

Ile Ile Phe Phe Asn Asn Val Pro Thr Trp Trp Thr Val Gly Gly Ala
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48

atc cct gga ctt gag cag tac cac gtc tgg atc agc atc cca ttc tgc

96

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Ile	Pro	Gly	Leu	Glu	Gln	Tyr	His	Val	Trp	Ile	Ser	Ile	Pro	Phe	Cys	
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tta	atc	tat	ctc	atg	gct	gtc	gtg	gcc	aat	agt	atc	ctt	ctc	tac	ctc	144
Leu	Ile	Tyr	Leu	Met	Ala	Val	Val	Ala	Asn	Ser	Ile	Leu	Leu	Tyr	Leu	
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att	gtg	gta	gag	cac	agt	ctt	cat	gca	ccc	atg	ttc	ttt	ttc	ctt	tcc	192
Ile	Val	Val	Glu	His	Ser	Leu	His	Ala	Pro	Met	Phe	Phe	Phe	Leu	Ser	
	50					55					60					
atg	ctg	gcc	att	act	gat	ctc	ata	ttg	tcc	acc	aca	tgt	gtc	ccc	aaa	240
Met	Leu	Ala	Ile	Thr	Asp	Leu	Ile	Leu	Ser	Thr	Thr	Cys	Val	Pro	Lys	
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aca	ctt	agc	atc	ttc	tgc	ttt	gtg	ttg	gac	tca	gct	ata	ctg	ctg	gcc	288
Thr	Leu	Ser	Ile	Phe	Cys	Phe	Val	Leu	Asp	Ser	Ala	Ile	Leu	Leu	Ala	
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atg	gca	ttt	gac	cgc	tat	atg	gcc	att	tgc	tca	ccc	ttg	aga	tac	act	336
Met	Ala	Phe	Asp	Arg	Tyr	Met	Ala	Ile	Cys	Ser	Pro	Leu	Arg	Tyr	Thr	
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act	att	ctg	act	ccc	aaa	acc	att	gtc	aaa	att	gct	gtg	gga	ata	tgt	384
Thr	Ile	Leu	Thr	Pro	Lys	Thr	Ile	Val	Lys	Ile	Ala	Val	Gly	Ile	Cys	
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Phe	Arg	Ser	Phe	Cys	Val	Phe	Val	Pro	Cys	Val	Phe	Leu	Val	Asn	Arg	
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Leu	Pro	Phe	Cys	Arg	Thr	His	Ile	Ile	Ser	His	Thr	Tyr	Cys	Glu	His	
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Ile	Gly	Val	Ala	Gln	Leu	Ala	Cys	Ala	Asp	Ile	Ser	Ile	Asn	Ile	Trp	
				165					170					175		
tgt	gga	ttt	tgt	gtt	ccc	atc	atg	acg	gtg	atg	aca	gac	gtg	atc	ctc	576
Cys	Gly	Phe	Cys	Val	Pro	Ile	Met	Thr	Val	Met	Thr	Asp	Val	Ile	Leu	
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att	gct	gtc	tcc	tac	acc	ctc	atc	ctc	tgt	gct	gtc	ttt	tgc	ctc	ccc	624
Ile	Ala	Val	Ser	Tyr	Thr	Leu	Ile	Leu	Cys	Ala	Val	Phe	Cys	Leu	Pro	
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tcc	caa	gat	gcc	cgt	cag	aag	gcc	ctt	tgc	tcc	tgt	ggt	tcc	cat	gtc	672
Ser	Gln	Asp	Ala	Arg	Gln	Lys	Ala	Leu	Cys	Ser	Cys	Gly	Ser	His	Val	
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tgt	gtt	atc	ctc	ata	ttc	tat	ata	cca	gca	ttc	ttc	tcc	att	ctt	gcc	720
Cys	Val	Ile	Leu	Ile	Phe	Tyr	Ile	Pro	Ala	Phe	Phe	Ser	Ile	Leu	Ala	
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cat	tgc	ttt	ggg	cat	aat	gtc	cct	cat	acc	ttt	cat	att	atg	ttt	gcc	768
His	Cys	Phe	Gly	His	Asn	Val	Pro	His	Thr	Phe	His	Ile	Met	Phe	Ala	
			245						250					255		
aac	ctt	tat	gta	atc	att	cca	cct	gct	ctc	aac	tct	att	gtc	tac	aga	816
Asn	Leu	Tyr	Val	Ile	Ile	Pro	Pro	Ala	Leu	Asn	Ser	Ile	Val	Tyr	Arg	
			260					265					270			
ata	aag	acc	aag	caa	atc	cag	aac	aga	atc	ctt	ttg	ctc	ttt	ccc	aag	864
Ile	Lys	Thr	Lys	Gln	Ile	Gln	Asn	Arg	Ile	Leu	Leu	Leu	Phe	Pro	Lys	
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Gly	Ser	Gln														
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16U 200 PCT FINAL.ST25
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Leu Ile Tyr Leu Met Ala Val Val Ala Asn Ser Ile Leu Leu Tyr Leu
35 40 45
Ile Val Val Glu His Ser Leu His Ala Pro Met Phe Phe Phe Leu Ser
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Met Leu Ala Ile Thr Asp Leu Ile Leu Ser Thr Thr Cys Val Pro Lys
65 70 75 80
Thr Leu Ser Ile Phe Cys Phe Val Leu Asp Ser Ala Ile Leu Leu Ala
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Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Ser Pro Leu Arg Tyr Thr
100 105 110
Thr Ile Leu Thr Pro Lys Thr Ile Val Lys Ile Ala Val Gly Ile Cys
115 120 125
Phe Arg Ser Phe Cys Val Phe Val Pro Cys Val Phe Leu Val Asn Arg
130 135 140
Leu Pro Phe Cys Arg Thr His Ile Ile Ser His Thr Tyr Cys Glu His
145 150 155 160
Ile Gly Val Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Ile Trp
165 170 175
Cys Gly Phe Cys Val Pro Ile Met Thr Val Met Thr Asp Val Ile Leu
180 185 190
Ile Ala Val Ser Tyr Thr Leu Ile Leu Cys Ala Val Phe Cys Leu Pro
195 200 205
Ser Gln Asp Ala Arg Gln Lys Ala Leu Cys Ser Cys Gly Ser His Val
210 215 220
Cys Val Ile Leu Ile Phe Tyr Ile Pro Ala Phe Phe Ser Ile Leu Ala
225 230 235 240
His Cys Phe Gly His Asn Val Pro His Thr Phe His Ile Met Phe Ala
245 250 255
Asn Leu Tyr Val Ile Ile Pro Pro Ala Leu Asn Ser Ile Val Tyr Arg
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cttttctccg tgagttcttc agccaggact gctgccatgc cgggtactgt taccacacca 240

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Tyr Ala Ala Leu Leu Cys Leu Ser Ala Ser Ile Ile Tyr Pro Thr Thr
35 40 45

tac ttg cag ttc ctg tcc cac ggc cgt tcc cgc gac cac gcc atc gcc 615

Tyr Leu Gln Phe Leu Ser His Gly Arg Ser Arg Asp His Ala Ile Ala
50 55 60

gcc atc gtc ttc tct ggc atc gcc tgt gtg gct tac gcc acc gaa gta 663

Ala Ile Val Phe Ser Gly Ile Ala Cys Val Ala Tyr Ala Thr Glu Val
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acc tgg acc cgg gcc cgg ccc ggc gag atc act gac tac atg gcc tcc 711

Thr Trp Thr Arg Ala Arg Pro Gly Glu Ile Thr Asp Tyr Met Ala Ser
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gag ctg ggg ctg ctg aag gtg ctg gag acc ttc gtg gcc tgc ctc atc 759

Glu Leu Gly Leu Leu Lys Val Leu Glu Thr Phe Val Ala Cys Leu Ile
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Phe Val Phe Ile Asn Ser Pro Tyr Val Tyr His Asn Arg Pro Ala Leu
115 120 125

gag tgg tgg gtg gcg gtg tac gcc ctc tgc ttc gtc ctg gcg gcc ctc 855

Glu Trp Trp Val Ala Val Tyr Ala Leu Cys Phe Val Leu Ala Ala Leu
130 135 140

act atc ctg ctg agc ctg ggg cac tgc acc aac atg ctg ccc atc cgc 903

Thr Ile Leu Leu Ser Leu Gly His Cys Thr Asn Met Leu Pro Ile Arg
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Phe Pro Ser Phe Leu Leu Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr
160 165 170

gcc act gcc ctt gtc ctc tgg ccc ctc tac cag ttc aac gag aag tat 999

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175 180 185 190

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Gly Val Gln Pro Trp Gln Thr Arg Asp Val Ser Cys Ser Asp Arg Asn
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ccc tac ctt gtg tgt atc tgg gac cgc cga ctg gct gtg acc aac ctg 1095

Pro Tyr Leu Val Cys Ile Trp Asp Arg Arg Leu Ala Val Thr Asn Leu
210 215 220

acg gcc gtc aac ttg ctg gcc tat gtg ggc gac ctg gtg tac tct gcc 1143

16U 200 PCT FINAL.ST25

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 His Leu Val Phe Val Lys Val 240 245
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Gln Phe Leu Ser His Gly Arg Ser Arg Asp His Ala Ile Ala Ala Ile
 50 55 60

Val Phe Ser Gly Ile Ala Cys Val Ala Tyr Ala Thr Glu Val Thr Trp
 65 70 75 80

Thr Arg Ala Arg Pro Gly Glu Ile Thr Asp Tyr Met Ala Ser Glu Leu
 85 90 95

Gly Leu Leu Lys Val Leu Glu Thr Phe Val Ala Cys Leu Ile Phe Val
 100 105 110

Phe Ile Asn Ser Pro Tyr Val Tyr His Asn Arg Pro Ala Leu Glu Trp
 115 120 125

Trp Val Ala Val Tyr Ala Leu Cys Phe Val Leu Ala Ala Leu Thr Ile
 130 135 140

Leu Leu Ser Leu Gly His Cys Thr Asn Met Leu Pro Ile Arg Phe Pro
 145 150 155 160

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Ser Phe Leu Leu Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr
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Ala Leu Val Leu Trp Pro Leu Tyr Gln Phe Asn Glu Lys Tyr Gly Val
 180 185 190

Gln Pro Trp Gln Thr Arg Asp Val Ser Cys Ser Asp Arg Asn Pro Tyr
 195 200 205

Leu Val Cys Ile Trp Asp Arg Arg Leu Ala Val Thr Asn Leu Thr Ala
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Val Phe Val Lys Val
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 Met Leu Arg Met Arg Val Pro
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 Pro His Phe Leu Gln Gln Pro Glu Asp Leu Val Val Leu Leu Gly Glu
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 gaa gcc cgg ctg ccg tgt gct ctg ggc gcc tac tgg ggg cta gtt cag 377
 Glu Ala Arg Leu Pro Cys Ala Leu Gly Ala Tyr Trp Gly Leu Val Gln
 40 45 50 55
 tgg act aag agt ggg ctg gcc cta ggg ggc caa agg gac cta cca ggg 425
 Trp Thr Lys Ser Gly Leu Ala Leu Gly Gly Gln Arg Asp Leu Pro Gly
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 Trp Ser Arg Tyr Trp Ile Ser Gly Asn Ala Ala Asn Gly Gln His Asp
 75 80 85
 ctc cac att agg ccc gtg gag cta gag gat gaa gca tca tat gaa tgt 521
 Leu His Ile Arg Pro Val Glu Glu Asp Glu Ala Ser Tyr Glu Cys
 90 95 100
 cag gct aca caa gca ggc ctc cgc tcc aga cca gcc caa ctg cac gtg 569
 Gln Ala Thr Gln Ala Gly Leu Arg Ser Arg Pro Ala Gln Leu His Val
 105 110 115
 ctg gtc ccc cca gaa gcc ccc cag gtg ctg ggc ggc ccc tct gtg tct 617
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 120 125 130 135

16U 200 PCT FINAL.ST25

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gat gga gcc acc ttc cat cag acc ctg ctg aag gaa ggg acc cct ggg 761
 Asp Gly Ala Thr Phe His Gln Thr Leu Leu Lys Glu Gly Thr Pro Gly
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tca gtg gag agc acc tta acc ctg acc cct ttc agc cat gat gat gga 809
 Ser Val Glu Ser Thr Leu Thr Leu Thr Pro Phe Ser His Asp Asp Gly
 185 190 195

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gac aca gct atc aca ctg agc ctg cag tac ccc cca gag gtg act ctg 905
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 220 225 230

tct gct tcg cca cac act gtg cag gag gga gag aag gtc att ttc ctg 953
 Ser Ala Ser Pro His Thr Val Gln Glu Gly Glu Lys Val Ile Phe Leu
 235 240 245

tgc cag gcc aca gcc cag cct cct gtc aca ggc tac agg tgg gca aaa 1001
 Cys Gln Ala Thr Ala Gln Pro Pro Val Thr Gly Tyr Arg Trp Ala Lys
 250 255 260

ggg ggc tct ccg gtg ctc ggg gcc cgc ggg cca agg tta gag gtc gtg 1049
 Gly Gly Ser Pro Val Leu Gly Ala Arg Gly Pro Arg Leu Glu Val Val
 265 270 275

gca gac gcc tcg ttc ctg act gag ccc gtg tcc tgc gag gtc agc aac 1097
 Ala Asp Ala Ser Phe Leu Thr Glu Pro Val Ser Cys Glu Val Ser Asn
 280 285 290 295

gcc gtg ggt agc gcc aac cgc agt act gcg ctg gat gtg ctg ttt ggg 1145
 Ala Val Gly Ser Ala Asn Arg Ser Thr Ala Leu Asp Val Leu Phe Gly
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ccg att ctg cag gca aag ccg gag ccc gtg tcc gtg gac gtg ggg gaa 1193
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 315 320 325

gac gct tcc ttc agc tgc gcc tgg cgc ggg aac ccg ctt cca cgg gta 1241
 Asp Ala Ser Phe Ser Cys Ala Trp Arg Gly Asn Pro Leu Pro Arg Val
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acc tgg acc cgc cgc ggt ggc gcg cag gtg ctg ggc tct gga gcc aca 1289
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 345 350 355

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 380 385 390

cgg ctg act gtg aac gct ccc cca gta gtg acc gcc ctg cac tct gcg 1433
 Arg Leu Thr Val Asn Ala Pro Pro Val Val Thr Ala Leu His Ser Ala
 395 400 405

cct gcc ttc ctg agg ggc cct gct cgc ctc cag tgt ctg gtt ttc gcc 1481
 Pro Ala Phe Leu Arg Gly Pro Ala Arg Leu Gln Cys Leu Val Phe Ala
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gag gcg ggg tcg cag ggc cgg ttc ctg gtg gag aca ttc cct gcc cca 1577
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 440 445 450 455

16U 200 PCT FINAL.ST25

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Arg Pro Ala Gln Leu His Val Leu Val Pro Pro Glu Ala Pro Gln Val
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Gln Ala Leu Pro Thr Gly Arg Asp Thr Ala Ile Thr Leu Ser Leu Gln
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Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val
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Ser Arg Gly Pro Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly
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cgt ttc act gcc ccg act tcc cag ttt tac cat tta ttt ctg cat ggc Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe Leu His Gly 55 60 65	1087
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Pro	Lys	Leu	Ser	Asn	Val	Gln	Glu	Leu	Phe	Leu	Arg	Asp	Asn	Lys	Ile	
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His	Ser	Ile	Arg	Lys	Ser	His	Phe	Val	Asp	Tyr	Lys	Asn	Leu	Ile	Leu	
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Gln	Leu	Tyr	Ala	Arg	Ile	Ser	Pro	Thr	Leu	Thr	Ser	His	Ser	Lys	Asn	
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645 650 655

gag att aat tcc cta cag aca gtc tgt gac tct tcc tac tgg cac aat 2911
Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr Trp His Asn
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Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp Cys Gly Ser
680 685 690

cac tcg ctc tca gac taagacccca accccaatag gggagggcag agggaaggcg 3014
His Ser Leu Ser Asp
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Ser Leu Gln Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe
50 55 60

Leu His Gly Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn
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Phe Tyr Asn Ala Val Ser Leu His Met Glu Asn Asn Gly Leu His Glu
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Ile Val Pro Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His
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Ile Asn Asn Asn Lys Ile Lys Ser Phe Arg Lys Gln Thr Phe Leu Gly
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145 150 155 160

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195 200 205

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 Leu Glu Tyr Leu Asn Val Glu Tyr Asn Ala Ile Gln Leu Ile Leu Pro
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 Gly Thr Phe Asn Ala Met Pro Lys Leu Arg Ile Leu Ile Leu Asn Asn
 465 470 475 480
 Asn Leu Leu Arg Ser Leu Pro Val Asp Val Phe Ala Gly Val Ser Leu
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 Ser Lys Leu Ser Leu His Asn Asn Tyr Phe Met Tyr Leu Pro Val Ala
 500 505 510
 Gly Val Leu Asp Gln Leu Thr Ser Ile Ile Gln Ile Asp Leu His Gly
 515 520 525
 Asn Pro Trp Glu Cys Ser Cys Thr Ile Val Pro Phe Lys Gln Trp Ala
 530 535 540

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Glu Arg Leu Gly Ser Glu Val Leu Met Ser Asp Leu Lys Cys Glu Thr
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Pro Val Asn Phe Phe Arg Lys Asp Phe Met Leu Leu Ser Asn Asp Glu
565 570 575

Ile Cys Pro Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His
580 585 590

Ser Lys Asn Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser
595 600 605

Tyr Leu Asp Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu
610 615 620

Leu Leu Val Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val
625 630 635 640

Phe Ile Leu Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser
645 650 655

Ser Ala Ser Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr
660 665 670

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690 695

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Arg Thr Lys Ile Met Ile Gly Ile Gly Ser Ser Leu Leu Val Ala Ala
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atg gtg ctc cta agt gtt gtg ttc tgt ctt tac ttc aaa gta gct aag 148
Met Val Leu Leu Ser Val Val Phe Cys Leu Tyr Phe Lys Val Ala Lys
25 30 35

gca cta aaa gct gca aag gac cct gat gct gtg gct gta aaa aat cac 196
Ala Leu Lys Ala Ala Lys Asp Pro Asp Ala Val Ala Val Lys Asn His
40 45 50 55

aac cca gac aag gtg tgt tgg gcc acg aac agc cag gcc aaa gcc acc 244
Asn Pro Asp Lys Val Cys Trp Ala Thr Asn Ser Gln Ala Lys Ala Thr
60 65 70

acc atg gag tct tgt cca tct ctc cag tgc tgt gaa ggt tgt aga atg 292
Thr Met Glu Ser Cys Pro Ser Leu Gln Cys Cys Glu Gly Cys Arg Met
75 80 85

cat gcc agt tct gat tcc ctg cca cct tgc tgt tgt gac ata aat gag 340
His Ala Ser Ser Asp Ser Leu Pro Pro Cys Cys Cys Asp Ile Asn Glu
90 95 100

16U 200 PCT FINAL.ST25

ggc ctc tgacttggga aagctgggca caaaaatctt catgagcaat atttctttct 396
 Gly Leu
 105

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 35 40 45

Ala Val Ala Val Lys Asn His Asn Pro Asp Lys Val Cys Trp Ala Thr
 50 55 60

Asn Ser Gln Ala Lys Ala Thr Thr Met Glu Ser Cys Pro Ser Leu Gln
 65 70 75 80

Cys Cys Glu Gly Cys Arg Met His Ala Ser Ser Asp Ser Leu Pro Pro
 85 90 95

Cys Cys Cys Asp Ile Asn Glu Gly Leu
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ttaccatact tactggcctt ggctggctct tcagctcttg gatccttaat cgaggaagc 179

atg acc acc aac ttg gat ctg aag gta tcc atg ctc agc ttc atc tca 227
 Met Thr Thr Asn Leu Asp Leu Lys Val Ser Met Leu Ser Phe Ile Ser
 1 5 10 15

gct acc tgc ttg ctc ctc tgc ctc aac ctg ttt gtg gca cag gtt cac 275
 Ala Thr Cys Leu Leu Leu Cys Leu Asn Leu Phe Val Ala Gln Val His
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tgg cat act agg gat gcc atg gag tca gat ctc cta tgg acc tat tat 323
 Trp His Thr Arg Asp Ala Met Glu Ser Asp Leu Leu Trp Thr Tyr Tyr
 35 40 45

ctt aac tgg tgc agt gac atc ttt tac atg ttt gct ggg atc atc tct 371
 Leu Asn Trp Cys Ser Asp Ile Phe Tyr Met Phe Ala Gly Ile Ile Ser
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16U 200 PCT FINAL.ST25
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 Thr Val Ile Pro Thr Glu Arg Ser Arg Leu Gly Val Gly Pro Val Thr
 85 90 95
 aca gta tca cct gct aaa gat gaa ggg cca agg tct gag atg gaa tct 515
 Thr Val Ser Pro Ala Lys Asp Glu Gly Pro Arg Ser Glu Met Glu Ser
 100 105 110
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 Leu Ser Val Arg Glu Lys Asn Leu Pro Lys Ser Gly Leu Trp Trp
 115 120 125
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Trp His Thr Arg Asp Ala Met Glu Ser Asp Leu Leu Trp Thr Tyr Tyr
 35 40 45

Leu Asn Trp Cys Ser Asp Ile Phe Tyr Met Phe Ala Gly Ile Ile Ser
 50 55 60

Leu Leu Asn Tyr Leu Thr Ser Arg Ser Pro Ala Cys Asp Glu Asn Val
 65 70 75 80

Thr Val Ile Pro Thr Glu Arg Ser Arg Leu Gly Val Gly Pro Val Thr
 85 90 95

Thr Val Ser Pro Ala Lys Asp Glu Gly Pro Arg Ser Glu Met Glu Ser
 100 105 110

Leu Ser Val Arg Glu Lys Asn Leu Pro Lys Ser Gly Leu Trp Trp
 115 120 125

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16U 200 PCT FINAL.ST25

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gctgtgagaa gccaaggaca ccgagtcagt c atg gca cct aag gcg gca aag      172
                               Met Ala Pro Lys Ala Ala Lys
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Pro Glu Glu Asp Lys Lys Asp Gly Lys Glu Pro Ser Asp Lys Pro Gln
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aag gcg gtg cag gac cat aag gag cca tcg gac aaa cct caa aag gcg      316
Lys Ala Val Gln Asp His Lys Glu Pro Ser Asp Lys Pro Gln Lys Ala
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gtg cag ccc aag cac gaa gtg ggc acg agg agg ggg tgt cgc cgc tac      364
Val Gln Pro Lys His Glu Val Gly Thr Arg Arg Gly Cys Arg Arg Tyr
                               60                               65                               70

cgg tgg gaa tta aaa gac agc aat aaa gag ttc tgg ctc ttg ggg cac      412
Arg Trp Glu Leu Lys Asp Ser Asn Lys Glu Phe Trp Leu Leu Gly His
                               75                               80                               85

gct gag atc aag att cgg agt ttg ggc tgc cta ata gct gca atg ata      460
Ala Glu Ile Lys Ile Arg Ser Leu Gly Cys Leu Ile Ala Ala Met Ile
90                               95                               100

ctg ttg tcc tca ctc acc gtg cac ccc atc ttg agg ctt atc atc acc      508
Leu Leu Ser Ser Leu Thr Val His Pro Ile Leu Arg Leu Ile Ile Thr
105                               110                               115

atg gag ata tcc ttc ttc agc ttc ttc atc tta ctg tac agc ttt gcc      556
Met Glu Ile Ser Phe Phe Ser Phe Phe Ile Leu Leu Tyr Ser Phe Ala
120                               125                               130                               135

att cat aga tac ata ccc ttc atc ctg tgg ccc att tct gac ctc ttc      604
Ile His Arg Tyr Ile Pro Phe Ile Leu Trp Pro Ile Ser Asp Leu Phe
140                               145                               150

aac gac ctg att gct tgt gcg ttc ctt gtg gga gcc gtg gtc ttt gct      652
Asn Asp Leu Ile Ala Cys Ala Phe Leu Val Gly Ala Val Val Phe Ala
155                               160                               165

gtg aga agt cgg cga tcc atg aat ctc cac tac tta ctt gct gtg atc      700
Val Arg Ser Arg Arg Ser Met Asn Leu His Tyr Leu Leu Ala Val Ile
170                               175                               180

ctt att ggt gcg gct gga gtt ttt gct ttt atc gat gtg tgt ctt caa      748
Leu Ile Gly Ala Ala Gly Val Phe Ala Phe Ile Asp Val Cys Leu Gln
185                               190                               195

aga aac cac ttc aga ggc aag aag gcc aaa aag cat atg ctg gtt cct      796
Arg Asn His Phe Arg Gly Lys Lys Ala Lys Lys His Met Leu Val Pro
200                               205                               210                               215

cct cca gga aag gaa aaa gga ccc cag cag gcc aag gga cca gaa ccc      844
Pro Pro Gly Lys Glu Lys Gly Pro Gln Gln Gly Lys Gly Pro Glu Pro
220                               225                               230

gcc aag cca cca gaa cct ggc aag cca cca ggg cca gca aag gga aag      892
Ala Lys Pro Pro Glu Pro Gly Lys Pro Pro Gly Pro Ala Lys Gly Lys
235                               240                               245

aaa tgacttgag gaggctcctg gtgtctgaaa cggcagtgta ttttacagca      945
Lys

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 35 40 45

Ser Asp Lys Pro Gln Lys Ala Val Gln Pro Lys His Glu Val Gly Thr
 50 55 60

Arg Arg Gly Cys Arg Arg Tyr Arg Trp Glu Leu Lys Asp Ser Asn Lys
 65 70 75 80

Glu Phe Trp Leu Leu Gly His Ala Glu Ile Lys Ile Arg Ser Leu Gly
 85 90 95

Cys Leu Ile Ala Ala Met Ile Leu Leu Ser Ser Leu Thr Val His Pro
 100 105 110

Ile Leu Arg Leu Ile Ile Thr Met Glu Ile Ser Phe Phe Ser Phe Phe
 115 120 125

Ile Leu Leu Tyr Ser Phe Ala Ile His Arg Tyr Ile Pro Phe Ile Leu
 130 135 140

Trp Pro Ile Ser Asp Leu Phe Asn Asp Leu Ile Ala Cys Ala Phe Leu
 145 150 155 160

Val Gly Ala Val Val Phe Ala Val Arg Ser Arg Arg Ser Met Asn Leu
 165 170 175

His Tyr Leu Leu Ala Val Ile Leu Ile Gly Ala Ala Gly Val Phe Ala
 180 185 190

Phe Ile Asp Val Cys Leu Gln Arg Asn His Phe Arg Gly Lys Lys Ala
 195 200 205

Lys Lys His Met Leu Val Pro Pro Pro Gly Lys Glu Lys Gly Pro Gln
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Gln Gly Lys Gly Pro Glu Pro Ala Lys Pro Pro Glu Pro Gly Lys Pro
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Pro Gly Pro Ala Lys Gly Lys Lys
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<222> (17)..(418)

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 15 20 25

acc ctc cca gag ccc cag cag gag gaa gag aaa cca aag act tct gaa 148
 Thr Leu Pro Glu Pro Gln Gln Glu Glu Lys Pro Lys Thr Ser Glu
 30 35 40

aac gac tcc aag aac agc aag gcc gtg aac aca aaa gaa gtc aat aga 196
 Asn Asp Ser Lys Asn Ser Lys Ala Val Asn Thr Lys Glu Val Asn Arg
 45 50 55 60

acg cat gcc tgc ttt gcc ctc cag gac gag atc ctc caa cgg ctg ttg 244
 Thr His Ala Cys Phe Ala Leu Gln Asp Glu Ile Leu Gln Arg Leu Leu
 65 70 75

ttc agt gaa atg aag atg aag gtc cta gaa aat cag atg ttc atc ata 292
 Phe Ser Glu Met Lys Met Lys Val Leu Glu Asn Gln Met Phe Ile Ile
 80 85 90

tgg aat aaa atg aat cac cac ggg cgg tca agc aga cat cgg aat ttt 340
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 95 100 105

ccc atg aaa aaa cac aga atg agg agg cat gag tca att tgc ccc acc 388
 Pro Met Lys Lys His Arg Met Arg Arg His Glu Ser Ile Cys Pro Thr
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ctg tct gac tgt act tcg agt tcc ccc agc taatgaggcc gaggcgggct 438
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<210> 239

<211> 134

<212> PRT

<213> Homo sapiens

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Pro Gln Gln Glu Glu Glu Lys Pro Lys Thr Ser Glu Asn Asp Ser Lys
 35 40 45

Asn Ser Lys Ala Val Asn Thr Lys Glu Val Asn Arg Thr His Ala Cys
 50 55 60

Phe Ala Leu Gln Asp Glu Ile Leu Gln Arg Leu Leu Phe Ser Glu Met
 65 70 75 80

Lys Met Lys Val Leu Glu Asn Gln Met Phe Ile Ile Trp Asn Lys Met
 85 90 95

Asn His His Gly Arg Ser Ser Arg His Arg Asn Phe Pro Met Lys Lys
 100 105 110

His Arg Met Arg Arg His Glu Ser Ile Cys Pro Thr Leu Ser Asp Cys

16U 200 PCT FINAL.ST25
125

115

120

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Met Asp Ser
1caa cag gag gac ctg cgc ttc cct ggg atg tgg gtc tca ttg tac ttt 164
Gln Gln Glu Asp Leu Arg Phe Pro Gly Met Trp Val Ser Leu Tyr Phe
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Gly Ile Leu Gly Leu Cys Ser Val Ile Thr Gly Cys Ile Ile Phe
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Leu His Trp Arg Lys Asn Leu Arg Arg Glu His Ala Gln Gln Trp
40 45 50gtg gag gtg atg aga gct gcc aca ttc acc tac agc cca ttg ttg tac 308
Val Glu Val Met Arg Ala Ala Thr Phe Thr Tyr Ser Pro Leu Leu Tyr
55 60 65tgg att aac aag cga cgg cgc tac ggc atg aat gca gcc atc aac acg 356
Trp Ile Asn Lys Arg Arg Arg Tyr Gly Met Asn Ala Ala Ile Asn Thr
70 75 80ggc cct gcc cct gct gtc acc aag act gag act gag gtc cag aat cca 404
Gly Pro Ala Pro Ala Val Thr Lys Thr Glu Thr Glu Val Gln Asn Pro
85 90 95gat gtt ctg tgg gat ttg gac atc ccc gaa ggc agg agc cat gct gac 452
Asp Val Leu Trp Asp Leu Asp Ile Pro Glu Gly Arg Ser His Ala Asp
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Gln Asp Ser Asn Pro Lys Ala Glu Ala Pro Ala Pro Leu Gln Pro Ala
120 125 130ctg cag ctg gct cca cag cag ccc cag gcc aga tcc cca ttc cca ctt 548
Leu Gln Leu Ala Pro Gln Gln Pro Gln Ala Arg Ser Pro Phe Pro Leu
135 140 145ccc atc ttt cag gag gtg ccc ttt gcc cca ccc ttg tgc aac cta ccc 596
Pro Ile Phe Gln Glu Val Pro Phe Ala Pro Pro Leu Cys Asn Leu Pro
150 155 160ccc ctg ctg aac cac tct gtc tcc tat cct ttg gcc acc tgt cct gaa 644
Pro Leu Leu Asn His Ser Val Ser Tyr Pro Leu Ala Thr Cys Pro Glu
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Arg Asn Val Leu Phe His Ser Leu Leu Asn Leu Ala Gln Glu Asp His
180 185 190 195agc ttc aat gcc aag cct ttt cct tca gaa ctg tagcctcctc tcaactgaagg 745
Ser Phe Asn Ala Lys Pro Phe Pro Ser Glu Leu
200 205

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16U 200 PCT FINAL.ST25

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 35 40 45

Gln Gln Trp Val Glu Val Met Arg Ala Ala Thr Phe Thr Tyr Ser Pro
 50 55 60

Leu Leu Tyr Trp Ile Asn Lys Arg Arg Arg Tyr Gly Met Asn Ala Ala
 65 70 75 80

Ile Asn Thr Gly Pro Ala Pro Ala Val Thr Lys Thr Glu Thr Glu Val
 85 90 95

Gln Asn Pro Asp Val Leu Trp Asp Leu Asp Ile Pro Glu Gly Arg Ser
 100 105 110

His Ala Asp Gln Asp Ser Asn Pro Lys Ala Glu Ala Pro Ala Pro Leu
 115 120 125

Gln Pro Ala Leu Gln Leu Ala Pro Gln Gln Pro Gln Ala Arg Ser Pro
 130 135 140

Phe Pro Leu Pro Ile Phe Gln Glu Val Pro Phe Ala Pro Pro Leu Cys
 145 150 155 160

Asn Leu Pro Pro Leu Leu Asn His Ser Val Ser Tyr Pro Leu Ala Thr
 165 170 175

Cys Pro Glu Arg Asn Val Leu Phe His Ser Leu Leu Asn Leu Ala Gln
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Glu Asp His Ser Phe Asn Ala Lys Pro Phe Pro Ser Glu Leu
 195 200 205

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 Asp Asn Leu Leu Glu Ser Leu Ser Leu Ser Thr Val Trp Asn Trp Ile
 10 15 20

16U 200 PCT FINAL.ST25

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 Gln Ala Ser Phe Leu Gly Glu Thr Ser Ala Pro Gln Gln Thr Ser Leu
 25 30 35
 gga cta tta gat aat ctt gct cca gct gtg caa atc atc ttg agg att 198
 Gly Leu Leu Asp Asn Leu Ala Pro Ala Val Gln Ile Ile Leu Arg Ile
 40 45 50
 tct ttc ttg att tta ttg gga ata gga ata tat gcc tta tgg aaa cga 246
 Ser Phe Leu Ile Leu Leu Gly Ile Gly Ile Tyr Ala Leu Trp Lys Arg
 55 60 65
 agt att cag tca att cag aaa aca ttg ttg ttt gta atc aca ctc tac 294
 Ser Ile Gln Ser Ile Gln Lys Thr Leu Leu Phe Val Ile Thr Leu Tyr
 70 75 80 85
 aaa ctt tac aag aag ggc tca cat att ttt gag gct ttg cta gcc aac 342
 Lys Leu Tyr Lys Lys Gly Ser His Ile Phe Glu Ala Leu Leu Ala Asn
 90 95 100
 cca gaa gga agt ggt ctc cga att caa gac aat aat aat ctt ttc ctg 390
 Pro Glu Gly Ser Gly Leu Arg Ile Gln Asp Asn Asn Asn Leu Phe Leu
 105 110 115
 tcc ttg ggt ctg caa gag aaa att ttg aaa aaa ctt aag aca gtg gaa 438
 Ser Leu Gly Leu Gln Glu Lys Ile Leu Lys Lys Leu Lys Thr Val Glu
 120 125 130
 aac aaa atg aag aac cta gaa ggg ata atc gtt gct caa aaa cct gcc 486
 Asn Lys Met Lys Asn Leu Glu Gly Ile Ile Val Ala Gln Lys Pro Ala
 135 140 145
 acg aag agg gat tgc tcc tct gag ccc tac tgc agc tgc tct gac tgc 534
 Thr Lys Arg Asp Cys Ser Ser Glu Pro Tyr Cys Ser Cys Ser Asp Cys
 150 155 160 165
 cag agt ccc ttg tcc aca tca ggg ttt act tcc ccc att tga aat gtg 582
 Gln Ser Pro Leu Ser Thr Ser Gly Phe Thr Ser Pro Ile Asn Val
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 Met
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 <212> PRT
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 Gln Gln Thr Ser Leu Gly Leu Leu Asp Asn Leu Ala Pro Ala Val Gln
 35 40 45
 Ile Ile Leu Arg Ile Ser Phe Leu Ile Leu Leu Gly Ile Gly Ile Tyr
 50 55 60
 Ala Leu Trp Lys Arg Ser Ile Gln Ser Ile Gln Lys Thr Leu Leu Phe
 65 70 75 80
 Val Ile Thr Leu Tyr Lys Leu Tyr Lys Lys Gly Ser His Ile Phe Glu
 85 90 95

16U 200 PCT FINAL.ST25
 Ala Leu Leu Ala Asn Pro Glu Gly Ser Gly Leu Arg Ile Gln Asp Asn
 100 105 110

Asn Asn Leu Phe Leu Ser Leu Gly Leu Gln Glu Lys Ile Leu Lys Lys
 115 120 125

Leu Lys Thr Val Glu Asn Lys Met Lys Asn Leu Glu Gly Ile Ile Val
 130 135 140

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Pro Ile

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 Met Cys Phe Ala Gly Phe Ser Phe Lys Glu Lys Ile Phe Ile Ala Leu
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 Ala Trp Met Pro Lys Ala Thr Val Gln Ala Val Leu Gly Pro Leu Ala
 20 25 30
 cta gaa aca gca aga gtc tct gca ccc cac ttg gaa cca tat gcg aag 205
 Leu Glu Thr Ala Arg Val Ser Ala Pro His Leu Glu Pro Tyr Ala Lys
 35 40 45
 gat gtg atg tca gta gca ttt tta gcc atc tcg atc aca gct cca aat 253
 Asp Val Met Ser Val Ala Phe Leu Ala Ile Ser Ile Thr Ala Pro Asn
 50 55 60
 gga gct cta ctt atg ggc att ctg ggg cct aaa atg ctt aca cgc cat 301
 Gly Ala Leu Leu Met Gly Ile Leu Gly Pro Lys Met Leu Thr Arg His
 65 70 75 80
 tat gat cca agc aaa ata aaa ctg caa ttg tca aca tta gaa cat cat 349
 Tyr Asp Pro Ser Lys Ile Lys Leu Gln Leu Ser Thr Leu Glu His His
 85 90 95
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16U 200 PCT FINAL.ST25

Ala Trp Met Pro Lys Ala Thr Val Gln Ala Val Leu Gly Pro Leu Ala
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Leu Glu Thr Ala Arg Val Ser Ala Pro His Leu Glu Pro Tyr Ala Lys
 35 40 45

Asp Val Met Ser Val Ala Phe Leu Ala Ile Ser Ile Thr Ala Pro Asn
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Gly Ala Leu Leu Met Gly Ile Leu Gly Pro Lys Met Leu Thr Arg His
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Tyr Asp Pro Ser Lys Ile Lys Leu Gln Leu Ser Thr Leu Glu His His
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 gtgagcc atg ttc gta ggc gtc gcc cgg cac tct ggg agc cag gat gaa 169
 Met Phe Val Gly Val Ala Arg His Ser Gly Ser Gln Asp Glu
 1 5 10
 gtc tca agg gga gta gag ccg ctg gag gcc gcg cgg gcc cag cct gct 217
 Val Ser Arg Gly Val Glu Pro Leu Glu Ala Ala Arg Ala Gln Pro Ala
 15 20 25 30
 aag gac agg agg gcc aag gga acc ccg aag tcc tcg aag ccc ggg aaa 265
 Lys Asp Arg Arg Ala Lys Gly Thr Pro Lys Ser Ser Lys Pro Gly Lys
 35 40 45
 aaa cac cgg tat ctg aga cta ctt cca gag gcc ttg ata agg ttc ggc 313
 Lys His Arg Tyr Leu Arg Leu Leu Pro Glu Ala Leu Ile Arg Phe Gly
 50 55 60
 ggt ttc cga aaa agg aaa aaa gcc aag tcc tca gtt tcc aag aag ccg 361
 Gly Phe Arg Lys Arg Lys Lys Ala Lys Ser Ser Val Ser Lys Lys Pro
 65 70 75
 gga gaa gtg gat gac agt ttg gag cag ccc tgt ggt ttg ggc tgc tta 409
 Gly Glu Val Asp Asp Ser Leu Glu Gln Pro Cys Gly Leu Gly Cys Leu
 80 85 90
 gtc agc acc tgc tgt gag tgt tgc aat aac att cgc tgc ttc atg att 457
 Val Ser Thr Cys Cys Glu Cys Cys Asn Asn Ile Arg Cys Phe Met Ile
 95 100 105 110
 ttc tac tgc atc ctg ctc ata tgt caa ggt gtg gtg ttt ggt ctt ata 505
 Phe Tyr Cys Ile Leu Leu Ile Cys Gln Gly Val Val Phe Gly Leu Ile
 115 120 125
 gat gtc agc att ggc gat ttt cag aag gaa tat caa ctg aaa acc att 553
 Asp Val Ser Ile Gly Asp Phe Gln Lys Glu Tyr Gln Leu Lys Thr Ile
 130 135 140
 gag aag ttg gca ttg gaa aag agt tac gat att tca tct ggc ctg gta 601
 Glu Lys Leu Ala Leu Glu Lys Ser Tyr Asp Ile Ser Ser Gly Leu Val
 145 150 155
 gca ata ttt ata gca ttc tat gga gac aga aaa aaa gta ata tgg ttt 649
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16U 200 PCT FINAL.ST25

160	165	170	
gta gct tcc tcc ttt tta ata gga ctt gga tca ctt tta tgt gct ttt			697
Val Ala Ser Ser Phe Leu Ile Gly Leu Gly Ser Leu Leu Cys Ala Phe			
175	180	185	190
cca tcc att aat gaa gaa aat aaa caa agt aag gta gga att gaa gat			745
Pro Ser Ile Asn Glu Glu Asn Lys Gln Ser Lys Val Gly Ile Glu Asp			
	195	200	205
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Ile Cys Glu Glu Ile Lys Val Val Ser Gly Cys Gln Ser Ser Gly Ile			
	210	215	220
tca ttc caa tca aaa tac ctg tct ttc ttc atc ctt ggg cag act gtg			841
Ser Phe Gln Ser Lys Tyr Leu Ser Phe Phe Ile Leu Gly Gln Thr Val			
	225	230	235
cag gga ata gca gga atg cct ctt tat atc ctt gga ata acc ttt att			889
Gln Gly Ile Ala Gly Met Pro Leu Tyr Ile Leu Gly Ile Thr Phe Ile			
	240	245	250
gat gag aat gtt gct aca cac tca gct ggt atc tat tta ggt att gca			937
Asp Glu Asn Val Ala Thr His Ser Ala Gly Ile Tyr Leu Gly Ile Ala			
	255	260	265
gaa tgt aca tca atg att gga tat gct ctg ggt tat gtg cta gga gca			985
Glu Cys Thr Ser Met Ile Gly Tyr Ala Leu Gly Tyr Val Leu Gly Ala			
	275	280	285
cca cta gtt aaa gtc cct gag aat act act tct gca aca aac act aca			1033
Pro Leu Val Lys Val Pro Glu Asn Thr Thr Ser Ala Thr Asn Thr Thr			
	290	295	300
gtc aat aat ggt agt cca gaa tgg cta tgg act tgg tgg att aat ttt			1081
Val Asn Asn Gly Ser Pro Glu Trp Leu Trp Thr Trp Trp Ile Asn Phe			
	305	310	315
ctt ttt gcc gct gtc gtt gca tgg tgt aca tta ata cca ttg tca tgc			1129
Leu Phe Ala Ala Val Val Ala Trp Cys Thr Leu Ile Pro Leu Ser Cys			
	320	325	330
ttt cca aac aat atg cca ggt tca aca cgg ata aaa gct agg aaa cgt			1177
Phe Pro Asn Asn Met Pro Gly Ser Thr Arg Ile Lys Ala Arg Lys Arg			
	335	340	345
aaa cag ctt cat ttt ttt gac agc aga ctt aaa gat ctg aaa ctt gga			1225
Lys Gln Leu His Phe Phe Asp Ser Arg Leu Lys Asp Leu Lys Leu Gly			
	355	360	365
act aat atc aag gat tta tgt gct gct ctt tgg att ctg atg agg aat			1273
Thr Asn Ile Lys Asp Leu Cys Ala Ala Leu Trp Ile Leu Met Arg Asn			
	370	375	380
cca gtg ctc ata tgc cta gct ctg tca aaa gct aca gaa tat tta gtt			1321
Pro Val Leu Ile Cys Leu Ala Leu Ser Lys Ala Thr Glu Tyr Leu Val			
	385	390	395
att att gga gct tct gaa ttt ttg cct ata tat tta gaa aat cag ttt			1369
Ile Ile Gly Ala Ser Glu Phe Leu Pro Ile Tyr Leu Glu Asn Gln Phe			
	400	405	410
ata tta aca ccc act gtg gca act aca ctt gca gga ctt gtt tta att			1417
Ile Leu Thr Pro Thr Val Ala Thr Thr Leu Ala Gly Leu Val Leu Ile			
	415	420	425
cca gga ggt gca ctt ggc cag ctt ctg gga ggt gtc att gtt tcc aca			1465
Pro Gly Gly Ala Leu Gly Gln Leu Leu Gly Gly Val Ile Val Ser Thr			
	435	440	445
tta gaa atg tct tgt aaa gcc ctt atg aga ttt ata atg gtt aca tct			1513
Leu Glu Met Ser Cys Lys Ala Leu Met Arg Phe Ile Met Val Thr Ser			
	450	455	460
gtg ata tca ctt ata ctg ctt gtg ttt att att ttt gta cgc tgt aat			1561
Val Ile Ser Leu Ile Leu Leu Val Phe Ile Ile Phe Val Arg Cys Asn			
	465	470	475
cca gtg caa ttt gct ggg atc aat gaa gat tat gat gga aca agg aag			1609

16U 200 PCT FINAL.ST25
Pro Val Gln Phe Ala Gly Ile Asn Glu Asp Tyr Asp Gly Thr Arg Lys
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ttg gga aac ctc acg gct cct tgc aat gaa aaa tgt aga tgc tca tct 1657
Leu Gly Asn Leu Thr Ala Pro Cys Asn Glu Lys Cys Arg Cys Ser Ser
495 500 505 510

tca att tat tct tct ata tgt gga aga gat gat att gaa tat ttt tct 1705
Ser Ile Tyr Ser Ser Ile Cys Gly Arg Asp Ile Glu Tyr Phe Ser
515 520 525

gcc tgc ttt gca ggg tgt aca tat tct aaa gca caa aac caa aaa aag 1753
Ala Cys Phe Ala Gly Cys Thr Tyr Ser Lys Ala Gln Asn Gln Lys Lys
530 535 540

atg tac tac aat tgt tct tgc att aaa gaa gga tta ata act gca gat 1801
Met Tyr Tyr Asn Cys Ser Cys Ile Lys Glu Gly Leu Ile Thr Ala Asp
545 550 555

gca gaa ggt gat ttt att gat gcc aga ccc ggg aaa tgt gat gca aag 1849
Ala Glu Gly Asp Phe Ile Asp Ala Arg Pro Gly Lys Cys Asp Ala Lys
560 565 570

tgc tat aag tta cct ttg ttc att gct ttt atc ttt tct aca ctt ata 1897
Cys Tyr Lys Leu Pro Leu Phe Ile Ala Phe Ile Phe Ser Thr Leu Ile
575 580 585 590

ttt tct ggt ttt tct ggt gta cca atc gtc ttg gcc atg acg cgg gtt 1945
Phe Ser Gly Phe Ser Gly Val Pro Ile Val Leu Ala Met Thr Arg Val
595 600 605

gta cct gac aaa ctg cgt tct ctg gcc ttg ggt gta agc tat gtg att 1993
Val Pro Asp Lys Leu Arg Ser Leu Ala Leu Gly Val Ser Tyr Val Ile
610 615 620

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Leu Arg Ile Phe Gly Thr Ile Pro Gly Pro Ser Ile Phe Lys Met Ser
625 630 635

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Gly Glu Thr Ser Cys Ile Leu Arg Asp Val Asn Lys Cys Gly His Thr
640 645 650

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Gly Arg Cys Trp Ile Tyr Asn Lys Thr Lys Met Ala Phe Leu Leu Val
655 660 665 670

gga ata tgt ttt ctt tgc aaa cta tgc act atc atc ttc act act att 2185
Gly Ile Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile
675 680 685

gca ttt ttc ata tac aaa cgt cgt cta aat gag aac act gac ttc cca 2233
Ala Phe Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro
690 695 700

gat gta act gtg aag aat cca aaa gtt aag aaa aaa gaa gaa act gac 2281
Asp Val Thr Val Lys Asn Pro Lys Val Lys Lys Lys Glu Glu Thr Asp
705 710 715

ttg taactggatc atcattgtga ttgcagatca tttgaggatc agagtgtgaa 2334
Leu

aacgagtttc tcttttacag attctccaag atttgtttct gtgcccact ttcagaagag 2394

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<400> 247

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16U 200 PCT FINAL.ST25

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 Arg Tyr Leu Arg Leu Leu Pro Glu Ala Leu Ile Arg Phe Gly Gly Phe
 50 55 60
 Arg Lys Arg Lys Lys Ala Lys Ser Ser Val Ser Lys Lys Pro Gly Glu
 65 70 75 80
 Val Asp Asp Ser Leu Glu Gln Pro Cys Gly Leu Gly Cys Leu Val Ser
 85 90 95
 Thr Cys Cys Glu Cys Cys Asn Asn Ile Arg Cys Phe Met Ile Phe Tyr
 100 105 110
 Cys Ile Leu Leu Ile Cys Gln Gly Val Val Phe Gly Leu Ile Asp Val
 115 120 125
 Ser Ile Gly Asp Phe Gln Lys Glu Tyr Gln Leu Lys Thr Ile Glu Lys
 130 135 140
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 145 150 155 160
 Phe Ile Ala Phe Tyr Gly Asp Arg Lys Lys Val Ile Trp Phe Val Ala
 165 170 175
 Ser Ser Phe Leu Ile Gly Leu Gly Ser Leu Leu Cys Ala Phe Pro Ser
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 Glu Glu Ile Lys Val Val Ser Gly Cys Gln Ser Ser Gly Ile Ser Phe
 210 215 220
 Gln Ser Lys Tyr Leu Ser Phe Phe Ile Leu Gly Gln Thr Val Gln Gly
 225 230 235 240
 Ile Ala Gly Met Pro Leu Tyr Ile Leu Gly Ile Thr Phe Ile Asp Glu
 245 250 255
 Asn Val Ala Thr His Ser Ala Gly Ile Tyr Leu Gly Ile Ala Glu Cys
 260 265 270
 Thr Ser Met Ile Gly Tyr Ala Leu Gly Tyr Val Leu Gly Ala Pro Leu
 275 280 285
 Val Lys Val Pro Glu Asn Thr Thr Ser Ala Thr Asn Thr Thr Val Asn
 290 295 300
 Asn Gly Ser Pro Glu Trp Leu Trp Thr Trp Trp Ile Asn Phe Leu Phe
 305 310 315 320
 Ala Ala Val Val Ala Trp Cys Thr Leu Ile Pro Leu Ser Cys Phe Pro

325 330 16U 200 PCT FINAL.ST25 335
 Asn Asn Met Pro Gly Ser Thr Arg Ile Lys Ala Arg Lys Arg Lys Gln
 340 345 350
 Leu His Phe Phe Asp Ser Arg Leu Lys Asp Leu Lys Leu Gly Thr Asn
 355 360 365
 Ile Lys Asp Leu Cys Ala Ala Leu Trp Ile Leu Met Arg Asn Pro Val
 370 375 380
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 385 390 395 400
 Gly Ala Ser Glu Phe Leu Pro Ile Tyr Leu Glu Asn Gln Phe Ile Leu
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 Thr Pro Thr Val Ala Thr Thr Leu Ala Gly Leu Val Leu Ile Pro Gly
 420 425 430
 Gly Ala Leu Gly Gln Leu Leu Gly Gly Val Ile Val Ser Thr Leu Glu
 435 440 445
 Met Ser Cys Lys Ala Leu Met Arg Phe Ile Met Val Thr Ser Val Ile
 450 455 460
 Ser Leu Ile Leu Leu Val Phe Ile Ile Phe Val Arg Cys Asn Pro Val
 465 470 475 480
 Gln Phe Ala Gly Ile Asn Glu Asp Tyr Asp Gly Thr Arg Lys Leu Gly
 485 490 495
 Asn Leu Thr Ala Pro Cys Asn Glu Lys Cys Arg Cys Ser Ser Ser Ile
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 Tyr Ser Ser Ile Cys Gly Arg Asp Asp Ile Glu Tyr Phe Ser Ala Cys
 515 520 525
 Phe Ala Gly Cys Thr Tyr Ser Lys Ala Gln Asn Gln Lys Lys Met Tyr
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 Tyr Asn Cys Ser Cys Ile Lys Glu Gly Leu Ile Thr Ala Asp Ala Glu
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 Gly Asp Phe Ile Asp Ala Arg Pro Gly Lys Cys Asp Ala Lys Cys Tyr
 565 570 575
 Lys Leu Pro Leu Phe Ile Ala Phe Ile Phe Ser Thr Leu Ile Phe Ser
 580 585 590
 Gly Phe Ser Gly Val Pro Ile Val Leu Ala Met Thr Arg Val Val Pro
 595 600 605
 Asp Lys Leu Arg Ser Leu Ala Leu Gly Val Ser Tyr Val Ile Leu Arg
 610 615 620
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 625 630 635 640

16U 200 PCT FINAL.ST25
 Thr Ser Cys Ile Leu Arg Asp Val Asn Lys Cys Gly His Thr Gly Arg
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Cys Trp Ile Tyr Asn Lys Thr Lys Met Ala Phe Leu Leu Val Gly Ile
 660 665 670

Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile Ala Phe
 675 680 685

Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro Asp Val
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 Val Arg Ser Ser Leu Leu Gly Ile Leu Leu Gln Val Thr Arg Leu Ser
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 Val Leu Leu Val Gln Asn Arg Asp His Leu Tyr Asn Phe Leu Leu Leu
 25 30 35
 aag atc aac ctc ttc aac cac tgg gtg tca ggg ctg gcc cag gag gcc 198
 Lys Ile Asn Leu Phe Asn His Trp Val Ser Gly Leu Ala Gln Glu Ala
 40 45 50
 cgg ggg tcc tgt aac tgg cag gcc cac cta ccc ctg gga gct gca gcc 246
 Arg Gly Ser Cys Asn Trp Gln Ala His Leu Pro Leu Gly Ala Ala Ala
 55 60 65 70
 tgc ccc ctg ggc cag gct ctc tgg gct ggg ctg gct ctg ata cag gtc 294
 Cys Pro Leu Gly Gln Ala Leu Trp Ala Gly Leu Ala Leu Ile Gln Val
 75 80 85
 ccc gta tgg ctg gtg cta cag gga ccc agg ctg atg tgg gct ggc atg 342
 Pro Val Trp Leu Val Leu Gln Gly Pro Arg Leu Met Trp Ala Gly Met
 90 95 100
 tgg ggc agc acc aag ggc ctg ggc ctg gcc ttg ctc agt gcc tgg gag 390
 Trp Gly Ser Thr Lys Gly Leu Gly Leu Ala Leu Leu Ser Ala Trp Glu
 105 110 115
 cag ctg ggc ctg tct gtg gcc atc tgg aca gat ctg ttt ttg tca tgt 438
 Gln Leu Gly Leu Ser Val Ala Ile Trp Thr Asp Leu Phe Leu Ser Cys
 120 125 130
 ctg cac ggc ctg atg ttg gtg gcc ttg ctc ttg gtg gta gtg acc tgg 486
 Leu His Gly Leu Met Leu Val Ala Leu Leu Val Val Val Thr Trp
 135 140 145 150
 agg gtg tgt cag aag tcc cac tgc ttc cga ctg ggc agg cag ctc agt 534
 Arg Val Cys Gln Lys Ser His Cys Phe Arg Leu Gly Arg Gln Leu Ser
 155 160 165
 aag gcc ttg caa gtg aac tgc gtg gta agg aag ctc ctg gta cag ctg 582
 Lys Ala Leu Gln Val Asn Cys Val Val Arg Lys Leu Leu Val Gln Leu
 170 175 180

16U 200 PCT FINAL.ST25

aga cgt ctg tat tgg tgg gtg gag act atg act gcc ctc acc tcc tgg 630
 Arg Arg Leu Tyr Trp Trp Val Glu Thr Met Thr Ala Leu Thr Ser Trp
 185 190 195

cac ctg gcc tat ctc atc acc tgg acc acc tgc ctg gcc tcc cac ctg 678
 His Leu Ala Tyr Leu Ile Thr Trp Thr Thr Cys Leu Ala Ser His Leu
 200 205 210

ctg cag gct gcc ttt gag cac acg acc cag ctg gcc gag gcc cag gag 726
 Leu Gln Ala Ala Phe Glu His Thr Thr Gln Leu Ala Glu Ala Gln Glu
 215 220 225 230

gtt gaa ccc cag gag gtc tca ggg tct tcc ttg ctg ccc tca ctg tct 774
 Val Glu Pro Gln Glu Val Ser Gly Ser Ser Leu Leu Pro Ser Leu Ser
 235 240 245

gcg tcc tcg gac tca gag tct gga aca gtt ttg cca gag caa gaa act 822
 Ala Ser Ser Asp Ser Glu Ser Gly Thr Val Leu Pro Glu Gln Glu Thr
 250 255 260

ccc aga gaa taaatgtatc cccatctgcc 851
 Pro Arg Glu
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<210> 249
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 <212> PRT
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<400> 249

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Tyr Asn Phe Leu Leu Leu Lys Ile Asn Leu Phe Asn His Trp Val Ser
 35 40 45

Gly Leu Ala Gln Glu Ala Arg Gly Ser Cys Asn Trp Gln Ala His Leu
 50 55 60

Pro Leu Gly Ala Ala Ala Cys Pro Leu Gly Gln Ala Leu Trp Ala Gly
 65 70 75 80

Leu Ala Leu Ile Gln Val Pro Val Trp Leu Val Leu Gln Gly Pro Arg
 85 90 95

Leu Met Trp Ala Gly Met Trp Gly Ser Thr Lys Gly Leu Gly Leu Ala
 100 105 110

Leu Leu Ser Ala Trp Glu Gln Leu Gly Leu Ser Val Ala Ile Trp Thr
 115 120 125

Asp Leu Phe Leu Ser Cys Leu His Gly Leu Met Leu Val Ala Leu Leu
 130 135 140

Leu Val Val Val Thr Trp Arg Val Cys Gln Lys Ser His Cys Phe Arg
 145 150 155 160

Leu Gly Arg Gln Leu Ser Lys Ala Leu Gln Val Asn Cys Val Val Arg
 165 170 175

Lys Leu Leu Val Gln Leu Arg Arg Leu Tyr Trp Trp Val Glu Thr Met
 180 185 190

16U 200 PCT FINAL.ST25

Thr Ala Leu Thr Ser Trp His Leu Ala Tyr Leu Ile Thr Trp Thr Thr
 195 200 205

Cys Leu Ala Ser His Leu Leu Gln Ala Ala Phe Glu His Thr Thr Gln
 210 215 220

Leu Ala Glu Ala Gln Glu Val Glu Pro Gln Glu Val Ser Gly Ser Ser
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 Met Lys Lys Ile Glu Ile
 1 5
 agt ggg acg tgt ctt tcc ttt cat ctc ctt ttc ggc ttg gaa atc aga 162
 Ser Gly Thr Cys Leu Ser Phe His Leu Leu Phe Gly Leu Glu Ile Arg
 10 15 20
 atg aga agg att gtt ttt gct ggt gtt atc tta ttc cgc ctc tta ggt 210
 Met Arg Arg Ile Val Phe Ala Gly Val Ile Leu Phe Arg Leu Leu Gly
 25 30 35
 gtt atc tta ttc cgc ctc tta ggt gtt atc tta ttc ggc cgc tta ggt 258
 Val Ile Leu Phe Arg Leu Leu Gly Val Ile Leu Phe Gly Arg Leu Gly
 40 45 50
 gac ctg gga acc tgc cag aca aaa cct ggt cag tac tgg aaa gaa gag 306
 Asp Leu Gly Thr Cys Gln Thr Lys Pro Gly Gln Tyr Trp Lys Glu Glu
 55 60 65 70
 gtc cac att caa gat gtt gga ggt ttg att tgc aga gca tgc aat ctt 354
 Val His Ile Gln Asp Val Gly Gly Leu Ile Cys Arg Ala Cys Asn Leu
 75 80 85
 tca ctg ccc ttc cat gga tgt ctt tta gac ctg gga acc tgc cag gca 402
 Ser Leu Pro Phe His Gly Cys Leu Leu Asp Leu Gly Thr Cys Gln Ala
 90 95 100
 gaa cct ggt cag tac tgt aaa gaa gag gtc cac att caa ggt ggc att 450
 Glu Pro Gly Gln Tyr Cys Lys Glu Glu Val His Ile Gln Gly Gly Ile
 105 110 115
 caa tgg tat tca gtc aaa ggc tgc aca aag aac aca tca gag tgc ttc 498
 Gln Trp Tyr Ser Val Lys Gly Cys Thr Lys Asn Thr Ser Glu Cys Phe
 120 125 130
 aag agt act ctc gtc aag aga att ctg caa ctg cat gaa ctt gta act 546
 Lys Ser Thr Leu Val Lys Arg Ile Leu Gln Leu His Glu Leu Val Thr
 135 140 145 150
 act cac tgc tgc aat cat tct ttg tgc aat ttc tgagtcagtg gcccatatct 599
 Thr His Cys Cys Asn His Ser Leu Cys Asn Phe
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160 200 PCT FINAL.ST25

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Leu Phe Arg Leu Leu Gly Val Ile Leu Phe Arg Leu Leu Gly Val Ile
 35 40 45

Leu Phe Gly Arg Leu Gly Asp Leu Gly Thr Cys Gln Thr Lys Pro Gly
 50 55 60

Gln Tyr Trp Lys Glu Glu Val His Ile Gln Asp Val Gly Gly Leu Ile
 65 70 75 80

Cys Arg Ala Cys Asn Leu Ser Leu Pro Phe His Gly Cys Leu Leu Asp
 85 90 95

Leu Gly Thr Cys Gln Ala Glu Pro Gly Gln Tyr Cys Lys Glu Glu Val
 100 105 110

His Ile Gln Gly Gly Ile Gln Trp Tyr Ser Val Lys Gly Cys Thr Lys
 115 120 125

Asn Thr Ser Glu Cys Phe Lys Ser Thr Leu Val Lys Arg Ile Leu Gln
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Leu His Glu Leu Val Thr Thr His Cys Cys Asn His Ser Leu Cys Asn
 145 150 155 160

Phe

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 Gly Ala Ser Lys His Lys Leu His Tyr Arg Lys Glu Val Glu Ile Thr
 15 20 25

acc aca ctt cag gaa ttg tta ctc tac ttt att ttt tta ata aac cta 149

16U 200 PCT FINAL.ST25

Thr Thr Leu Gln Glu Leu Leu Leu Tyr Phe Ile Phe Leu Ile Asn Leu	
30 35 40	
tgt ata ttg act ttt ggg atg gta aac cca cat atg tat tac tta aac	197
Cys Ile Leu Thr Phe Gly Met Val Asn Pro His Met Tyr Tyr Leu Asn	
45 50 55	
aag gtt atg tca tct cta ttt ttg gac act tct gtg cct ggt gaa gaa	245
Lys Val Met Ser Ser Leu Phe Leu Asp Thr Ser Val Pro Gly Glu Glu	
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